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VOLUME LI NOVEMBER, 1955 NUMBER 11

ASTHMA IN CHILDREN

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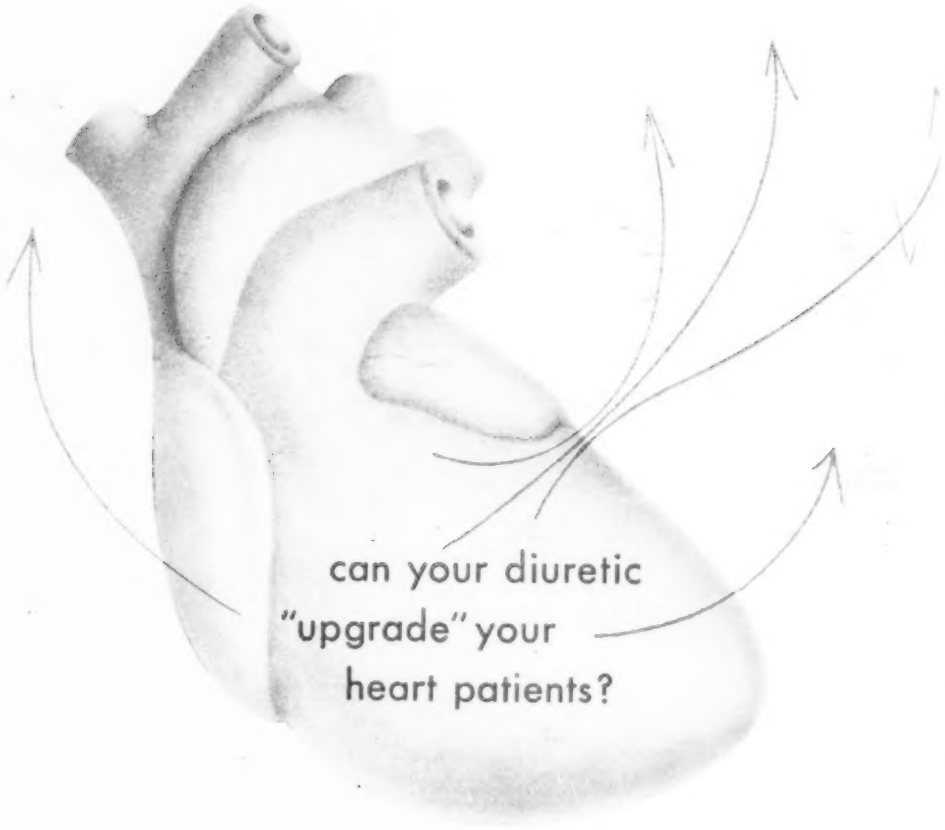

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VOLUME LI November, 1955 NUMBER 11

THE USE OF IODINE 131 INTRAVENOUSLY AS A TEST OF THYROID FUNCTION

H. K. EZELL, Ph. D. AND W. M. MCCORD, M. D., Ph. D.*

Thyroid physiology is complex and is the subject of extensive investigation, which has, in recent years, provided a better understanding and evaluation of thyroid metabolism. It has long been recognized that iodine metabolism is controlled by the thyroid and that the thyroid has a profound effect upon the growth, development and metabolism of the body. The mechanism by which the thyroid utilizes iodine has been partially clarified and involves several stages. Iodide ion (I^-) carried by the blood stream is picked up and held by the thyroid. It is then oxidized and combined with tyrosine to form di-iodo-tyrosine, two molecules of which condense to form thyroxine. The thyroxine with globulin forms thyroglobulin, which is stored as colloid. By hydrolysis of the colloid, thyroxine is liberated to the blood stream where it combines with globulin and albumin,[1] and then circulates as the thyroxine-protein complex.

Laboratory procedures used in the study of thyroid function usually are limited to a basal metabolism rate (BMR) determination, but the serum cholesterol level may be determined and for more detailed studies a number of other determinations may be carried out. Recently, the determination of the protein bound iodine (PBI) which is the thyroxine-protein complex concentration in the serum, and radioactive iodine (I^{131}) uptake which is used to determine rate of pick up and storage of iodine by the thyroid, have been proposed as thyroid function tests. These tests are not as sensitive to emotional disturbances in the patient as is the BMR determination and have a more direct bearing on the thyroid than does the serum cholesterol determination. On this basis these tests should be more accurate and more specific for the evaluation of thyroid activity. After using these tests for several months it seemed desirable to compare results in those patients in whom several of the tests had been performed.

The values for the BMR and serum cholesterol levels were obtained from the patients' records in the hospital and from the records of private physicians. The diagnosis was obtained from the same sources. In several cases a pathologic diagnosis was available from tissue obtained by operation or biopsy. The PBI values were determined in this laboratory. Normal values vary from 3.5 to 8.5 micrograms (ugs.) per 100 ml. of serum; in hypothyroidism levels range below 3.5 ugs. per 100 ml. and in the hyperfunctioning glands, values rise as high as 15 ugs. per 100 ml.

For the tracer studies 25 microcuries of I^{131} are injected by vein, the Geiger counter is placed over the thyroid, and the rate of pick-up of the iodine by the thyroid recorded graphically for a 30 minute period. Twenty four hours later the amount of I^{131} retained in the thyroid is measured, the amount excreted in the urine is determined, and when desired, the chest or other portions of the body are surveyed for abnormal distribution of thyroid tissue. In this report we are considering only the 30 minute uptake and the amount retained over a 24 hour period. Normally, the thyroid

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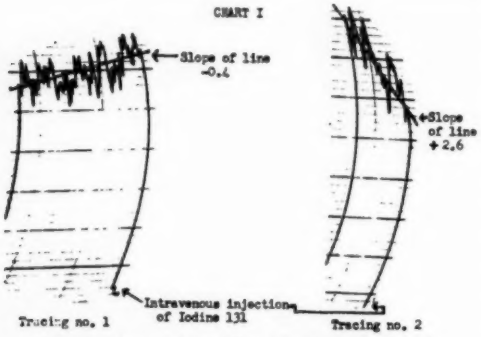
does not concentrate intravascular iodide to any appreciable extent for the 30 minutes following intravenous injection. The 24 hour percentage retention of iodine in euthyroidism is between 10 and 40 percent of the administered I^{131}.



Demonstrations of slope of line indicating rate of uptake

In Chart I the rate of uptake is indicated. With a normal thyroid or hypofunctioning thyroid a line is obtained with a zero or even negative slope as illustrated in Tracing No. 1. With a hyperactive thyroid a line is obtained with a positive slope as illustrated in Tracing No. 2.

Chart II lists, for comparison, the 30 minute iodine uptake rate, the 24 hour iodine retention, the BMR, the PBI and the serum cholesterol level. The final diagnosis on each patient is also given.

One purpose of this study was to attempt to compare the 30 minute iodine uptake rate by the thyroid with other thyroid function tests and with the final diagnosis. Our interest is primarily in the 30 minute uptake rate because a minimum of time and laboratory analysis are required for this procedure. In patients no. 1 through no. 11 there was, in general, rather good agreement with the 30 minute uptake rate, the 24 hour retention of I^{131}, BMR, and PBI. There was also agreement with the patient's final diagnosis, except for patient no. 2. In this patient the 30 minute uptake rate was increased, I^{131} retention was 46 percent, PBI was 10.0 ugs. per 100 ml., and serum cholesterol was 200 mgs. per 100 ml. A final diagnosis of chronic thrombophlebitis was made upon discharge from the hospital, but the patient has been seen since in the clinic and continues to show an elevated pulse rate with other signs of hyperthyroidism.

In patient no. 12 through no. 18 the thyroid function tests and the final diagnosis do not agree too well. The final diagnosis in patient no. 12 was nodular goiter. The I^{131} retention was 46 percent, the PBI was elevated, the BMR was high normal, and there was no marked increase in the rate in which iodine was picked up by the thyroid in 30 minutes. Patient no. 13 was also diagnosed as nodular goiter. The I^{131} retention was 52 percent, the PBI and serum cholesterol were normal, and there was no increase in the 30 minute iodine uptake rate. Patient no. 17 showed no increase in the rate of iodine uptake rate or retention, but the BMR and PBI were high. This patient was treated for hyperthyroidism and has shown some clinical improvement. Patient no. 18 was thought to have thyroiditis, but this was ruled out. There has been clinical improvement with the administration of thyroid extract.

Discussion: It would appear from this study that the 30 minute rate of iodine uptake by the thyroid is a good indication of thyroid function. Certain circumstances must be considered before performing an I^{131} study and also must be kept in mind when evaluating the study. Any compound which alters thyroid metabolism will affect the iodine uptake rate and retention. Thorn and Forsham[2] describe the action of the thiocyanates on the thyroid as preventing the trapping of iodine in the tissue. Riggs[3] states that the thioamides, which include thiouracil, thiourea, propylthiouracil, methimazole, and itrumil, prevent the iodination of the tyrosine molecule. Large doses of potassium iodide may block the action of the thyrotrophic hormone or interfere with the release of the thyroxine from the colloid in the gland. Some asthmatic formulas contain considerable quantities of potassium iodide. The administration of thyroid extract will supress the thyrotrophic hormone and therefore depress thyroid activity. These compounds will interfere with thyroid metabolism for several weeks after they are discontinued.

Radiopaque iodized oils and fatty acids including Lipiodol, Pantopaque, Priodax, Telepaque, etc., which are used for radiological diagnostic procedures, saturate the thyroid with iodine sometimes for a period of several years. The water soluble iodine radiopaque compounds such as Diodrast, Urokon, Neo-Iopax, Skiodan, etc., prevent the thyroid from picking up extrinsic iodine for several months. All the mixtures containing iodine which have

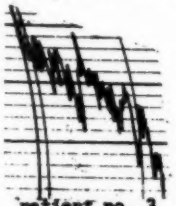
CHART II

Normal Values

I^{131} uptake rate (30 min.) — no increase
I^{131} retention (24 hrs.) 10 to 40%
Basal metabolism rate, (—) 15 to (+) 15%
Serum protein bound iodine 3.5 to 8.5 ugs /100 mls.
Serum cholesterol 150 to 300 mgs /100 mls.

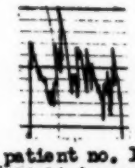
Patient no.	I^{131} uptake rate 30 min.	I^{131} retention 24 hrs. (%)	Basal metabolism rate (%)	Serum protein bound iodine (ugs /100 mls.)	Serum cholesterol (mgs /100 mls.)	Final diagnosis
1	marked increase	98	+74	10.4	181	thyroid hyperplasia (pathological)
2	marked increase	46	—	10.0	200	chronic thrombophlebitis (clinical)
3	marked increase	77	—	17.0	161	hyperthyroidism (clinical)
4	no increase	30.5	+12	7.6	182	non-toxic nodular goiter (clinical)
5	no increase	39	—12	5.0	—	malnutrition (clinical)
6	no increase	10	—	2.2	286	hypothyroidism (clinical)
7	no increase	13	+6	4.1	—	pituitary adenoma (clinical)
8	no increase	20	—	4.4	235	borderline hypothyroidism (clinical)
9	moderate increase	43	+25	11.2	139	diffuse toxic goiter (clinical)
10	slight increase	49	+48	7.8	250	mild hyperthyroidism (clinical)
11	no increase	10	—	1.1	133	hypothyroidism (clinical)
12	very slight increase	46	+12	11.2	—	nodular goiter (pathological)
13	no increase	52	—	4.0	286	nodular goiter (pathological)
14	no increase	17	+33	5.4	—	(?) endocrine disorder (clinical)
15	no increase	22	+55	4.8	307	endometriosis (clinical)
16	no increase	41	+17	5.2	258	arteriosclerotic heart disease (clinical)
17	no increase	15	+43	11.5	—	hyperthyroidism (clinical)
18	no increase	1	+71	5.5	187	hypothyroidism (clinical)

I^{131} uptake rates for 30 minutes in four of these patients.

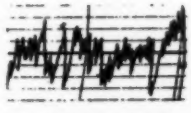


patient no. 3 (marked increase)

patient no. 9 (moderate increase)



patient no. 10 (slight increase)



patient no. 17 (no increase)

been mentioned as interfering with the iodine uptake will also affect the PBI by giving high values. Most probably, the thiocyanates and the thioamides interfere with iodination of the tyrosine molecule and would therefore give low PBI values.

As a general statement in regard to thyroid function, it can be said that in mild to marked hyperthyroidism there will be an increased rate of iodine uptake by the thyroid for 30 minutes following injection. In borderline to mild hyperthyroidism there may not be any increase in the rate of uptake. In nodular goiter and carcinoma of the thyroid there will, in all probability, be no increase in the I^{131} uptake, although the 24 hour retention of I^{131} may be excessive with nodular goiter. In carcinoma of the thyroid, in most instances, the retention of I^{131} will be within or below euthyroid limits.

Summary—The 30 minute rate in which I^{131} was picked up by the thyroid has been compared with the 24 hour retention of I^{131}, the PBI, the BMR, the serum cholesterol, and final diagnosis. It has been shown that, except in specific instances, it is a good index to thyroid activity. Thyroid medication, the use of drugs which alter thyroid metabolism and iodine containing agents must be carefully considered in regard to the use of these tests.

REFERENCES

(1) Dingledine, W. S., Pitt-Rivers, R., and Stanbury, J. S.: Nature and transport of the iodinated substances of the blood of normal subjects and of patients with thyroid disease. J. Clin. Endocrin. and Met. 15:724-731, June, 1955.
(2) Harrison, T. R.: Principals of Internal Medicine. Philadelphia, The Blakiston Company, 1950, p. 570.
(3) Drill, V. A.: Pharmacology in Medicine. New York, McGraw-Hill Company, 1954, p. 70/11-70/12.

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A CLINICAL STUDY OF PENTAPYRROLIDINIUM (ANSOLYSEN)

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Charleston, S. C.

The use of ganglionic blocking agents is attracting considerable interest at the present time in the control of hypertension. The drugs of this type which have assumed the greatest prominence are hexamethonium and more recently, pentapyrrolidinium (Ansolysen, Wyeth). The following observations have been previously reported after laboratory and clinical studies of the drug Ansolysen:[1, 2]

1. Its potency is several times greater than hexamethonium;
2. The duration of its effect is one and one half times that of hexamethonium and;
3. Side effects are as great or greater than with hexamethonium, and tolerance develops as fast with Ansolysen as with hexamethonium.

Smirk[3] substantiated the above findings with further clinical investigation, although he felt the incidence of side effects was somewhat less with pentapyrrolidinium (Ansolysen).

In a study of 24 patients treated with Ansolysen at the Mayo Clinic[4] it was felt that although the drug was effective "The incidence and severity of side reactions to pentapyrrolidinium which include constipation, orthostatic weakness and dryness of the mouth have been disappointingly great."

It is the purpose of this paper to report our clinical experiences in the treatment of 13 severely hypertensive patients with Ansolysen.

The study was carried out on an outpatient basis in a clinic treating principally indigent patients. The education level of the great majority of these individuals was quite low thereby excluding the possibility of home blood pressure recordings. The ages of the selected patients were from 34 to 60 years with an average of 40 years. We selected only very severe hypertensives for this particular study and usually these patients represented failure under other drug therapy

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directed at lowering their blood pressures. Cardiomegaly was present in 11 of the 13 patients. Three of the group were in congestive heart failure due to hypertensive heart disease. Seven of the group had grade 2 (Keith-Wagener) retinal changes and four had grade 3 (Keith-Wagener) changes. The highest blood pressure recorded at the start of treatment was 240 mm. Hg. systolic and 140 mm. Hg. diastolic. The average of the series was 220 mm. Hg. systolic and 126 mm. Hg. diastolic.

The duration of treatment was from one to six months and in several instances is continuing. Dosage of Ansolysen used varied from 20 mg. twice a day to 100 mg. every 6 hours. Reserpine was routinely given daily with Ansolysen.

Good results were obtained in 5 of the 13 patients. Side effects were high throughout the group. The maximum recorded blood pressure drop was 80 mm. Hg. systolic and 34 mm. Hg. diastolic. The outstanding side effects noted were syncopal-like attacks and postural weakness. Dryness of the mouth and blurred vision were also encountered but were not nearly so troublesome as the first named side effects.

Because of the side effects the drug was stopped either by us or by the patient in 7 of the 13 cases. As stated above, 5 of the 13 were considered to be "good results" both from the standpoint of blood pressure lowering and the relative freedom from side effects.

Conclusions:

We feel that Ansolysen represents a most potent "anti-hypertensive" agent but that in performing its task it is apt to produce at times rather severe side reactions. We feel this simply indicates the efficacy of the drug in blocking the autonomic nervous system and thereby lowering the blood pressure. The drug should be reserved for those with severe hypertension and the dose should be carefully adjusted for optimum response.

There will be a definite percentage of patients who will be unable to tolerate Ansolysen. These can be found only by trial.

From our study it appears that the potency of Ansolysen is unquestioned but that the way in which it is used by physician and patient will determine its usefulness in the individual case. Considerable skill and care are needed for its proper usage.

REFERENCES

1. Maxwell, R. D. H. and Campbell, A. J. M.: New Sympathicolytic Agents. Lancet 1: 455-457 (Mar 7) 1953.
2. Wien, R. and Mason, D. F. J.: Pharmacology of M and B 2050. Lancet 1: 454-455 (Mar 7) 1953.
3. Smirk, F. H.: Action of a New Methonium Compound in Arterial Hypertension. Lancet 1: 457-464 (Mar 7) 1953.
4. Gifford, R. W., Jr., Allen, E. V., and Birkhead, N. C.: Pentapyrrolidinium Bitartrate in the Treatment of Hypertension: Preliminary Observations. Proc. Staff Meet. Mayo Clin. 1: 496-508 (Sept 1) 1954.

ASTHMA IN CHILDREN

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University of Chicago

The physician who is called to attend a child in an acute asthmatic attack seldom finds difficulty in answering such questions as "What is wrong?" "What makes him breathe that way?" and "What can be done to relieve him?" But when the parents proceed with questions such as "What brought it on?" and "How can we prevent a recurrence?", the physician's certainty turns usually into conjecture. Asthma is a symptom complex rather than a specific disease. While the symptom occurs in standardized and repeatable form, the factors which initiate it are varied, sometimes shifting and often multiple.

Management of an acute attack of asthma can be based upon a logical attempt to correct the well-recognized disturbances of pulmonary physiology. The feature of asthma which distinguishes it from other pulmonary disorders is constriction of the circular muscles of the bronchi and bronchioles. Rapid change in the degree of such muscle spasm accounts in large measure for the suddenness with which attacks may begin, and for the prompt relief which often follows the use of relaxing drugs such as epinephrine, ephedrine, or aminophylline. Obstruction of the smaller radicles of the bronchial tree is abetted by inflammatory or exudative edema of the bronchial epithelium and by the secretion of unusually viscid mucus. ACTH and cortisone, or their derivatives, probably exert their effect by reducing inflammation in the bronchial epithelium, an effect which operates somewhat more slowly than do the bronchodilators. With or without such treatment, evidence of a lingering bronchitis usually persists within the lungs for a while after the major obstructive symptoms have abated. The use of expectorant drugs and inhalations of moistened air are rational measures designed to liquefy thick mucus and to facilitate clearance of the airways, but no dramatic relief can be anticipated from these measures alone. The drying effects of atropine derivatives and poorly humidified oxygen do more harm than good since they render bronchial secretions more tenacious.

In addition to the changes taking place in the lungs, important alterations of the child's emotional equilibrium also command the physician's attention. As the acute asthmatic attack builds up, bronchiolar obstruction reaches a critical level beyond which carbon dioxide begins to accumulate within the alveoli. Chemical changes in the blood ensue which in turn stimulate the respiratory center. The child then loses the automatic, unconscious respiratory control to which he is accustomed and has instead to exert an urgent voluntary muscular effort to improve his pulmonary ventilation. The annoyance and anxiety which follow this realization may help to aggravate his bronchial muscle spasm and may quickly convert mild respiratory distress into a more severe asthmatic attack. The attack may be equally upsetting to the parents who are watching its progression. Their mounting emotional tension is readily sensed by the child and feeds back to him, potentiating his own anxiety. Such is the scene into which the physician is usually introduced. By the successful use of bronchodilators, sedatives and confident reassurance he is often able to interrupt the cycle. If he fails, it may be necessary to remove the child to the calmer, more casual environment of a hospital, where, in the absence of anxious parents, asthmatic attacks almost always respond promptly.

Although the preceding analysis is admittedly over-simplified, it provides a satisfying explanation of the events which take place after bronchospasm has produced an asthmatic attack. Analysis of the factors which lead up to the bronchospasm is a more complex and uncertain procedure. All practitioners are familiar with the vagaries and inconsistencies of clinical asthma and with the frequent lack of congruity between theories of its pathogenesis and the actual events taking place in the patient. Yet any approach to the long-term

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management of the asthmatic child must be founded upon some broad concept of the manner in which the child behaves. For those who favor a pictorial concept of disease, the scheme described below offers a rough, unscientific form which may be tailored to fit any variety of clinical asthma.

Among children who possess the proper constitutional make-up, asthma is regarded as a reaction to accumulated stress. The factors which produce the stress are of variable types and may fluctuate in individual intensity from time to time. So long as the sum of their noxious influences remains below a certain arbitrary level, the child remains asymptomatic. When the accumulation exceeds the arbitrary asthmatic threshold, wheezing ensues. The total accumulation may be due entirely to a single well-recognized component, or it may be compounded of increases in the effects of two or more components. In Figure 1 this concept

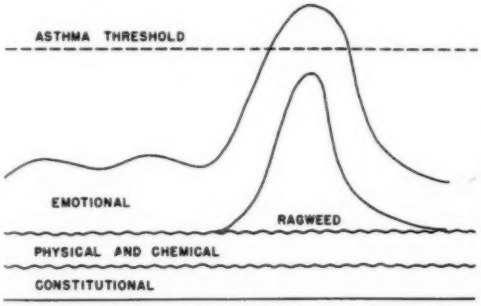

Fig. 1. Asthma Precipitated by Specific Sensitivity.

is illustrated for a child who has asthma only during the hay-fever season. In the spring of the year the total influence of his constitutional endowment, of the physical and chemical irritants in his environment, and of the emotional tensions to which he is exposed is so small that he remains free of symptoms. In August the burden of his specific sensitivity to ragweed is added to the other components, together with some secondary increase in the emotional component due to the annoyance of living with an obstructed nose. The resulting accumulation pushes him over the threshold and asthma results. Figure 2 shows a similar diagram for a young child whose accumulated asthma-producing stimuli remain well below

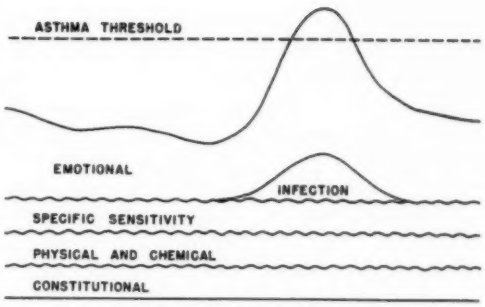

Fig. 2. Asthma Precipitated by Infection.

the threshold until he catches a respiratory infection. Once again this new factor is engrafted upon the others and simultaneously there is an increase in the influence of the emotional component. Figure 3 diagrams the sequence of events in a child whose symptoms are primarily stimulated by emotional stress superimposed upon the continuing operation of other factors. Mental images such as these cannot be constructed until the physician has had some opportunity to study the behavior of asthma in the individual child and to assess the relative importance of the various components. Their value lies in keeping before him the fact that asthma is a multiple factor disorder and that interaction may occur among such factors. The effect of specific sensitivity and of infection upon the emotional components has already been mentioned. The converse may also operate, that is, a tense emotional climate may increase the susceptibility to specific allergens, or even perhaps to infection. Another example is the increased sensitivity to certain foods which hay-fever sufferers may display during the pollen season.

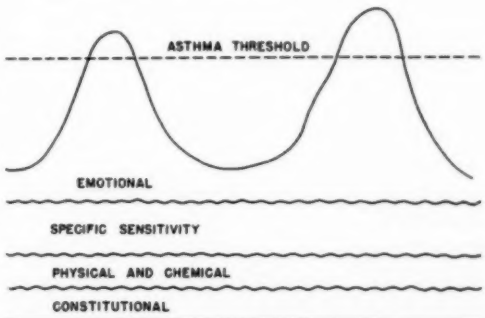

Fig. 3. Asthma Precipitated by Emotional Tension.

The numerous factors which contribute to the production of asthma can be considered under a few broad headings. The physician's first problem is to decide which of them is of major importance to the individual child. An accurate history, appropriate tests, and repeated observations of child and family are usually necessary. His second goal is to find means of suppressing the noxious factors so as to keep the child below the asthmatic threshold.

Constitutional Factors

Since most children go through life without asthma in spite of exposure to equivalent stresses, it is necessary to invoke the concept of a constitutional difference among asthmatic children in order to explain the appearance of this particular symptom complex. By such definition the first attack of asthma categorizes the child and reveals his constitutional endowment. Hereditary influences are undoubtedly important in determining this trait since other asthmatic individuals can usually be found in the antecedent and collateral relatives of the child. Other varieties of allergic manifestation are unusually prevalent in such families too. The possibility of controlling the constitutional factor in asthma is remote, for prevention would have to depend upon an eugenic approach—an approach to which the human species is not very amenable.

Infectional Factors

Among young children the first appearance of asthma-like symptoms is usually associated with an obvious respiratory infection. The younger the child the more likely is this to be true. Small infants seldom have asthma dissociated from respiratory infection and even among children of pre-school age a preponderance of the attacks are initiated by infection. The factor of absolute size of the bronchiolar lumen assumes great importance in small infants, for tubes of small cross-sectional diameter can readily be occluded by degrees of edema and quantities of mucus which would have little effect upon a larger structure. For this reason the bronchodilating drugs may not afford as dramatic relief as humidifying measures or anti-inflammatory treatment with ACTH or cortisone derivatives or with antibiotics. The fact that a very high percentage of infants and pre-school children have asthmatic symptoms only in association with infection and lose this propensity as they grow older, invites the creation of a separate diagnostic classification of "asthmatic bronchitis." This is a useful distinction to make since the prognostic implications are better and the parents may be spared the painful vistal of asthma as a chronic and sometimes fatal ailment comparable to what they have seen among adults. A small percentage of children who begin with asthmatic bronchitis will later have symptoms in the absence of infection. The diagnosis and the prognosis for decreasing trouble must then be revised.

Attempts to demonstrate that infection produces asthma through the operation of specific sensitivity to certain bacteria have not been successful. Among children in particular this explanation seems to be at variance with clinical experience. The small child who is susceptible to bronchospasm may respond with asthma to infection by any type of respiratory pathogen, be it viral or bacterial. The response appears to be a reflex reaction to inflammation and irritation of the respiratory epithelium created by the infecting agent rather than a manifestation of specific allergy.

Control of the infectional factors which initiate asthma is comparatively simple. Appropriate antibiotic therapy should be started as soon as respiratory infection is identified. In most instances this cannot be undertaken soon enough to forestall asthma, although some parents of susceptible children learn to recognize the early symptoms of infection and to seek immediate treatment both for the infection and for the expected asthmatic attack. The use of broad spectrum antibiotics and one of the antispasmodic drug combinations which include ephedrine, theophyllin and phenobarbital sometimes appears to abort an impending attack.

A child who has demonstrated a high degree of susceptibility to the respiratory infections circulating in his environment and who suffers asthma in consequence, deserves the same sort of antibiotic prophylaxis as that which is given to rheumatic subjects or children with cystic

fibrosis of the pancreas. A small daily dose of sulfadiazine, penicillin or a broad spectrum antibiotic offers an inexpensive way of improving the resistance to casual infection. Such measures cannot be expected to eliminate all attacks since they do not protect the child against infection with viral agents or with bacteria which have acquired drug resistance. In most instances, however, the frequency of infection is decreased enough to permit the child to pursue a normal life. Prophylaxis of this sort is simpler, less expensive and less traumatic than the repeated injection of autogenous or non-specific vaccines throughout the winter months.

Physical and Chemical Factors

Children who are otherwise close to the asthmatic threshold can be stimulated to an attack by physical or chemical irritants in the air which they breathe. Climatic changes such as sudden shifts in barometric pressure or humidity bother some children; cold winter air is a sufficient stimulus for others. In many of our urban areas, "smog" which is composed of irritating smoke and industrial fumes blankets the city on still, overcast days. In certain regions atmospheric dust is a common irritant. The child can escape from such factors only at the cost of displacing his family to a new environment, a program which does not often yield enough improvement in his condition to warrant the expense.

Chemical and physical irritants within the home are generally amenable to some control if the family is willing and able to expend the necessary money and energy. The most common irritant is house dust which, although traditionally regarded as a specific allergen, probably plays a more important role as non-specific mechanical irritant. Much can be done by the removal of dust-catching drapes and rugs and by proper filtration of the air which is circulated through air-conditioning and heating systems. Our local pharmacy now produces a dust-sealing compound made from mineral oil emulsified with a detergent, which can be applied to draperies and bed and furniture coverings for the purpose of trapping the settling dust and preventing its continual resuspension in the ambient air. One proper application of this compound retains its effect until the fabrics have to be dry cleaned. Some of the possible sources of chemical irritation within the home are tobacco smoke, paint fumes, coal gas, and leakage from faulty heating flues.

Specific Sensitivities

Elaboration of the modern theories of allergy led to the hope that asthma could be controlled by a scientific approach in which the allergens responsible for the symptom could be recognized by proper testing and their noxious effects removed either by avoidance or by desensitization, (or hyposensitization which is now the preferred term). This approach may be a very fruitful one for the child who has a limited number of sensitivities. Particular allergens, suspected from a careful history, are confirmed by skin tests, preferably by the passive transfer technique. When the offending allergens are pollens, animal danders, a few foods, or a drug such as penicillin, contact with them may be successfully avoided. If this is not possible, specific hyposensitization alone or in conjunction with the administration of anti-histamine drugs or cortisone during periods of unavoidable exposure may suffice to eliminate asthma completely.

Unfortunately this logical approach breaks down for many of the older children with persistent asthma. Muddled conclusions are reached because there is no relation between demonstrated sensitivities and the history, or because no sensitivities are demonstrated, or because so many sensitivities appear that it becomes impractical to attempt control through hyposensitization or elimination. For such children, limited periods of trial on restricted diets and hyposensitizing regimes are justifiable, but if this type of management is pursued unsuccessfully over a long period of time it does more harm than good. The child who becomes embroiled in a fruitless round of restrictions and injections loses his opportunity for a reasonably normal life and becomes an introverted slave to his allergies. The importance of other factors such as the emotional aspects of his asthma is usually neglected and the treatment itself may add to his anxieties, exaggerate intra-family tensions, and encour-

age a hypochondriacal attitude toward his symptoms.

A non-specific type of management is now available through the prolonged use of cortisone or its derivatives to forestall the occurrence of attacks and to break up the asthma "habit." This technique has the inherent danger of being an easy cure-all. The potential disadvantages which must be weighed before it is adopted are that such substances increase the susceptibility to infections, that they may induce hypertension or other manifestations of Cushing's syndrome, and that their prolonged use may foster dependence as occasionally happens with a child under treatment for severe rheumatic heart disease. In spite of these disadvantages cortisone and its derivatives have a definite place in the management of intractable asthma in children.

Emotional Factors

The importance of emotional factors in asthma is generally recognized, but the mechanism by which they operate is usually obscure. Occasionally the sequence of events is direct and obvious. I have seen one girl who regularly had an attack as she entered the treatment room for her weekly antiluetic injection, and who recovered as soon as the procedure was finished. More often the precipitating emotional factors are the subtle outgrowth of internal conflicts which are poorly understood by patient, family, and physician alike. Psychoanalytic studies of asthmatic children and adults[1] have yielded concepts which are not likely to be palatable to the average physician although some of the general clinical observations may conform to his experience. In our own group of subjects, if we exclude those whose asthma is entirely due to infection and pollen sensitivity, recurring similarities are observed in the family relationships. Usually the mother is the dominating figure, exerting her influence by a managerial approach which is corrective rather than warm. The father is a relatively passive participant in family affairs who takes only a casual part in rearing the children. The asthmatic child's major conflict centers about his mother and seems to combine a resentment of her domination with excessive fear of losing her affection. In this setting the asthmatic attack is interpreted as representing a perverted emotional outburst which expresses the child's anger at his failure to receive sufficient maternal affection. It may also be regarded as a device for turning his mother's attention toward himself. The validity of such interpretations must be determined for each individual situation.

Some modification of emotional attitudes can be achieved at a superficial level by a physician who is sensitive to the underlying currents. Usually the mother's corrective and restrictive tendencies need to be decreased rather than heightened by therapeutic suggestions which impose new manipulations upon the child. She may also need encouragement and suggestions designed to decrease rivalry with a sibling or to provide the patient with adequate opportunity to achieve independence from her. Parents who have become aware of the importance of their emotional connections with the child and who are ready to explore this facet more deeply should be referred to a competent psychiatrist.

Prognosis

The parents of children who have been diagnosed as asthmatic usually come to our clinic in an agitated state of mind. They are understandably alarmed by the possibility that the child will die during an acute asthmatic attack. In addition they usually have misconceptions about the outlook for the asthmatic child which lead to an unnecessarily gloomy prognosis. Fortunately it is possible to give them honest reassurance on both these counts. Although it cannot be categorically stated that a child never dies in an asthmatic attack, such an occurrence is assuredly rare. Misconceptions about childhood asthma arise from unwarranted comparison with the adult disease which for most lay persons means a chronic progressive disease ending in a fatal episode. The assumption readily follows that when the symptoms begin at an early age, the life span will be greatly curtailed. Except for a very few asthmatic children this is a false conclusion. The large group of children whose asthma is initiated by infection enjoy an excellent prognosis for complete cessation of at-

tacks before the end of their grammar school years. Those children who suffer asthma only during certain pollen seasons, likewise have an excellent prognosis for spontaneous recovery within a few years. At the worst they will suffer minimum disability for a limited portion of each year. Even when the outlook is less favorable, as in the case of a child with multiple sensitivities and emotionally determined attacks, the prospect of working out a satisfactory way of life is fairly good. Some can look forward to amelioration of their attacks by the favorable physical and emotional changes which take place at puberty. Even if asthmatic attacks continue intermittently for several years, few children acquire permanent lung damage or measurable loss of pulmonary function because they have the advantages of resilient tissues and, unlike the adult victims, seldom have the complications of chronic heart disease, chronic bronchitis and emphysema.

Summary

Acute asthmatic attacks in children are accompanied by well-recognized disturbances of pulmonary physiology. The form of the attack is consistent and predictable. Treatment is logically conducted by giving sympathomimetic drugs or aminophyllin to counteract spasm of the bronchial musculature; antibiotics or ACTH or cortisone derivatives to decrease inflammatory reaction; and expectorants and humidified inhalations to decrease the viscosity of mucus. The cycle of mutually reinforcing anxiety which arises between parents and the afflicted child can generally be interrupted by reassurance, by amelioration of the asthma with drugs or by transferring the child to a hospital.

Unlike the predictable pathophysiology and standardized treatment of the acute symptom complex, the factors which lead up to asthma are varied and complex. Asthma can be viewed as the response of certain individuals to accumulated stress. The sources of stress vary from time to time and from individual to individual. A constitutional predisposition, probably genetically determined, must be assumed. Superimposed factors of infection, of physical or chemical irritation, of specific allergic response, or of emotional tension serve to activate the latent tendency. Appropriate long-term management must be guided by the relative importance of these factors operative in an individual child.

The prognosis for asthma in children is generally good. For many children it is a temporary or infrequent disturbance which need not interfere with a normal life. Care should be taken that therapeutic regimens do not rob the asthmatic child of this opportunity. For the few in whom asthma becomes a chronic, disabling problem, attention to the emotional components of the illness are clearly indicated and usually require the services of a competent psychiatrist.

1. French, T. M. and Alexander, F.: Psychosomatic Factors in Bronchial Asthma, Psychosomatic Medicine Monographs IV, 1941, National Research Council, Washington, D. C.

ELECTROCARDIOGRAM OF THE MONTH

DALE GROOM, M. D.*
Charleston, S. C.

Case Record—This 3 year old male child was referred to the Heart Clinic of the Medical College of South Carolina with a presumptive diagnosis of congenital heart disease. His physical, x-ray, and electrocardiographic findings were all strongly suggestive of an interatrial septal defect with gross cardiomegaly, right ventricular hypertrophy, and pulmonary congestion. He showed marked clinical improvement following digitalization and on July 6, 1955 cardiac catheterization was attempted with a view towards possible surgery of the congenital cardiac lesion.

Prior to the catheterization procedure the patient was premedicated with 20 mg. of Demerol, 1/600 gr. of atropine sulfate and 3 gr. of quinidine sulfate. Anesthesia was induced by slow administration intravenously of 200 mg. of sodium Pentothal with no untoward results. Shortly thereafter, however, as preparations were being made for a venous cutdown for insertion of the catheter the patient vomited a moderate amount of liquid gastric contents, some of which may have been aspirated into the bronchial tree. This was followed immediately by a laryngospasm, apnea, and increasing cyanosis. A laryngoscope was inserted promptly and oxygen was administered under positive pressure. Nevertheless the patient remained completely apneic for at least 30 seconds, with an additional minute or two ensuing before adequate respiration could be restored. Wheezes and rhonchi were noted throughout both lung fields but respiration became spontaneous and the cyanosis abated. It was thought best not to proceed with the cardiac catheterization at this time and the patient was returned to the ward shortly thereafter where his subsequent course was uneventful.

Electrocardiogram—Inasmuch as all cardiac catheterizations are performed under continuous electrocardiographic observation any changes in rhythm or in pattern configuration may be detected at all times. The above tracings are taken from three portions of the catheterization record: before apnea, during the period of apnea, and following restoration of normal respiration. Lead 2 is used throughout.

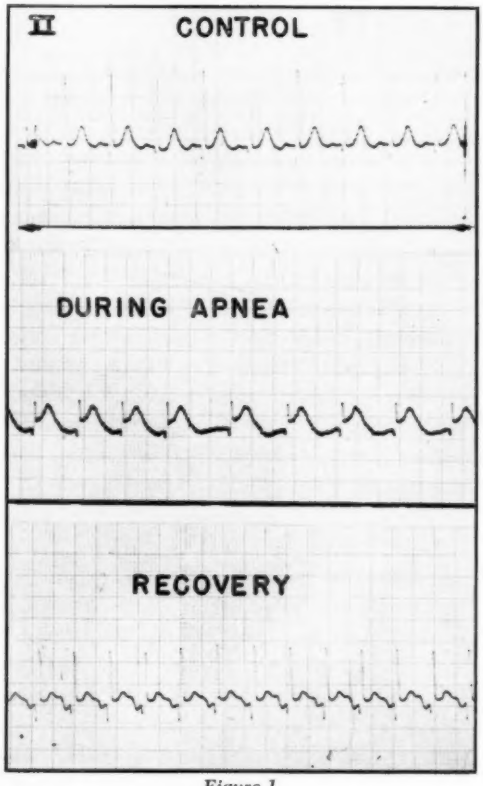

Figure 1

It is apparent that during the period of deep cyanosis and apnea the ST segments became markedly elevated (approximately 3 mm.), and the QRS deflections decreased in amplitude to approximately one half their initial value. No definite P waves are seen in this portion of the tracing so the type of rhythm remains uncertain.

The recovery tracing below represents an intermediate stage between the first two, with some T wave changes and prominent Q waves.

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ST segments still remain somewhat elevated and the QRS voltage has increased to nearly that of the control tracing. Probably a normal sinus rhythm has been resumed although P waves are still not well demarcated. The rate does not change greatly throughout the entire record.

Discussion—Generally speaking, a shift of the ST segment in relation to the base line is due to a *current of injury* emanating from some portion of the myocardium. Whether the shift is one of elevation or depression of the ST depends upon position of the electrode in respect to the normal and the injured areas of myocardium. (Actually, of course, it is the base line itself rather than the ST segment which is shifted by the current of injury, although the commonly used term "S-T shift" would indicate otherwise.) When a unipolar electrode is placed directly over the site of injury the ST segment appears to be elevated, but when an area of normal muscle lies between the electrode and the injured site the segment is recorded as depressed below the base line. Hence the so-called "reciprocal ST displacements" ordinarily produced in different leads of the electrocardiogram by acute myocardial infarction. Shifts of the segment of more than 1 mm. in any lead are generally considered significant, although occasionally one sees this as a persistant finding in presumably normal hearts. Common electrocardiographic practice is to assume that significant ST segment displacements indicate acute injury, with or without necrosis, to myocardial muscle fibers from infarction, inflammation, trauma or whatever cause.

In this case there can be little doubt that the recorded injury currents were due directly to acute anoxia of the myocardium secondary to respiratory arrest. Similar changes, though of lesser degree, are sometimes induced for diagnostic purposes by the "anoxia test" for coronary insufficiency. Certainly in this case the entire myocardium was subjected to considerable anoxia resulting in rather remarkable disturbances in its electrical activity. T wave changes similar to those seen in the last recording not infrequently appear as transitory findings following exposure to unusual chemical or physical stress and are attributable to alterations in the process of electrical repolarization of the muscle tissue.

Subsequent examinations of this patient have revealed no evidence of residual damage in spite of these extensive electrocardiographic changes during the period of anoxia.

PANEL ON CARCINOMA OF THE LUNG

Presented at the 1955 meeting of the South Carolina Medical Association by Dr. Forde A. McIver, Dr. Richard H. Overholt, Dr. Merrill C. Sosman, Dr. George W. Wright and Dr. H. R. Pratt-Thomas.

Dr. McIver: I think that we have a slide which might well introduce this discussion and I'll ask Dr. Overholt to start.

Dr. Overholt: The slide to which Dr. McIver refers is a tabulation of mortality rates for white males in this country from 1930 on to 1953. There is projected on the slide the suspected death rate in 1960 and 1970 to illustrate the importance of this problem.

The important thing, I think for all of us to realize, that any doctor in private practice today encounters a cancer of the lung problem. It is estimated that one out of every ten males will die of this disease. At any time some relative or friend may come into your office and you will have to decide what is going to be done about his problem. I think the attitude which you take about the discovery of the lesion and what should be done in regard to management will do more to save that man's life than anything that a surgical team will be able to do by perfecting surgical techniques. This now represents the first cause of death, as far as lung disease is concerned in white males.

Dr. McIver: Dr. Overholt has convinced us I think that we are dealing with a problem that is not infrequent any longer and this part of the discussion deals particularly with diagnosis and differential diagnosis and I think it would be advisable at this point to ask Dr. Sosman if he will give us his ideas of the value of the x-ray survey in diagnosis of carcinoma of the lung.

Dr. Sosman: I think the routine x-ray survey is probably the best possible method of pick-

ing up early asymptomatic carcinoma of the lung. When cancer of the lung begins to produce symptoms, about half the chance of cure is gone. In the asymptomatic stage the curability is very much higher. The most important thing in the differential diagnosis of cancer of the lung in this early stage picked up on survey is a comparison with previous x-ray. Dr. Ringler of Minnesota recently published about nine points or nine different features of these asymptomatic nodules in the lung which pointed toward carcinoma or malignant tumor of the lung. The one most important thing of all those nine points was the comparison with a previous film. If the tumor or small nodule was present on today's film and not on the previous film it was highly suspicious if not really pathognomonic of a lesion which required removal. The second thing was that if a lesion were present and could be shown to have increased in size it would demand immediate action. Now we can't make the diagnosis of cancer of the lung with x-ray alone. We can find the lesion, that I think is the primary critical thing which we do in our x-ray survey. You do not want me to go into differential diagnosis at this time.

Dr. McIver: I think perhaps not at this time. We also might want to discuss later the economics of this thing of finding a lesion of the lung, but we will have to save those for a continuation of this discussion.

Dr. Sosman: All of you in the audience, except the ladies, of course, have a birthday once a year. I would like to recommend to you that you have a chest x-ray on your birthday so it will be on file. If your physician or radiologist moves out of town, tell him to leave the film with you when he goes.

Dr. McIver: Among the other diagnostic things available to us, we have bronchoscopy and others which we will mention, but I think that Dr. Overholt may have a comment along with the discussion of bronchoscopy in the diagnosis which will overlap with what Dr. Sosman has said.

Dr. Overholt: Just to emphasize what Dr. Sosman has said, I would like to show this slide. The patient was a school teacher. Nothing was done until 1949. You can see on this survey film done in 1947 that a small area can be seen. Here you can see that the small area has grown to this size over a period of two years.

This next slide is of a doctor who had repeated x-rays over a period of years. We see here in 1951 a shadow in the lower part of the chest. If one has the film taken when there are symptoms, one might confuse this with pneumonia, virus pneumonia or inflammatory process around some other lesion.

We see digging back on old films that it was present in April of 1950 and here it was in March of 1949, illustrating again that this may be a slow growing type of cancer that will cast a shadow for years before it becomes symptomatic.

The next slide illustrates a shadow in April, 1952, showing no change—asymptomatic in two years—no change at all. Probably this was not a tumor—a non-smoking female, however, exploration revealed that this was a capillary adenocarcinoma. So Dr. Sosman, I think you agree that you can't trust any of these abnormal shadows that persist.

Dr. McIver: Dr. Overholt, while you have the floor, will you answer one question for us? I don't think any of us recommend bronchoscopy as a screening measure for carcinoma of the lung, but still it has a very important place, particularly in symptomatic disease, or disease in which there are x-ray findings. What is the present experience with bronchoscopy and the percentage of cases in which you will be able to make diagnosis by that method?

Dr. Overholt: In our experience the earlier the lesion, the less likely you are to find it bronchoscopically. A great many of these lesions start in the smaller bronchioles or in the segmental divisions and are out of the range of bronchoscopic vision and in the past when we have relied so heavily on bronchoscopy as a verifying test, we were dealing with the end stages of cancer, but as we find more more and more patients with silent cancer we'll find that the incidence of a positive bronchoscopy dropped to about 10%, therefore, the use of bronchoscopy as a reliable verifying test falls way down. I think the greatest value of the bronchoscope is to determine

the integrity of the trachea and the bronchus to the good lung. That is, you want to know what the patient will have to work with after you have removed the cancer-bearing portion of lung so that bronchoscopy is a valuable procedure, but it has value principally in determining the patency and integrity of the bronchial system to see what the patient is going to have to live with the rest of his life.

Dr. McIver: Perhaps we will get Dr. Pratt-Thomas to make a comment here. When the bronchoscopy slows you down you still have the cytologist and I think that this is very important.

Dr. Pratt-Thomas: The situation the pathologist likes best of all is one in which he reigns supreme, when the bronchoscopist is wrong and the pathologist or cytologist is right. I do think that you should all realize, particularly in view of what Dr. Overholt has just said about the lack of value, in a manner of speaking, as far as early diagnosis of carcinoma of the lung in relation to bronchoscopy is concerned, that is where examination of the sputum or bronchial washings become tremendously reliable, and I think it is impressive to know that you can diagnose somewhere between 80% and 85% of carcinomas of the lung by examination of repeated, possibly three or five, specimens of adequately collected sputum. It's simple, it doesn't do anything to the patient as far as being uncomfortable, it doesn't require hospital admission. They can have a bottle of formalin in their bed or by their bedside table or in their pocketbook and can get an adequate deeply coughed-up specimen which will really render very valuable diagnostic information in what I consider to be a very significant number of cases. It may also pick up quite early lesions and we have seen carcinomas of the lung which could be practically fitted under one microscopic field in which the sputum has been positive. I personally am much more partial to sputum than bronchial washings as we have found them much more reliable and more dependable in our hands.

Dr. McIver: Now you have heard from radiologists and surgeons and pathologists and even the referee has thrown in a word or two. The silent, relatively impartial member of this group perhaps can give you some important points. I wonder if Dr. Wright wouldn't make some comment on this thing.

Dr. Wright: I expect to be tossed out on my ear because I am very radical in my views on this particular subject. I don't concern myself too much with the differential diagnosis, and I think that this is a way of handling the situation when circumstances are ideal. Once the radiologist discovers an abnormal shadow in the lung, I spend very little time trying to prove what it is, but have the surgeon open the thoracic cavity, get a piece of the material and have the pathologists look at it. The reason I do so is that you can speculate as long as you wish. When you get a positive finding of carcinoma of the lung, the vast majority are operated on anyway, and when you do not find a positive finding to support the diagnosis, you look into the thorax anyway, so you might just as well, from a practical point of view start right at the beginning. Once you have found the suspicious shadow and cannot positively define it as being something else, as an active tuberculous lesion, or if it has calcium in it. If you cannot find to your own satisfaction that it is not a carcinoma, I think that good advice is to do the very best thing you can, that is to open the chest and approach it directly. There may be some who would disagree with me on this point. I know that when it comes to sell this to your patient, or if you are a consultant and you try to sell it to the family physician, it is oftentimes difficult and you must then temporize by doing these other things. If you have complete control, and you want the ideal circumstance, I don't see anything to be gained by indirect methods when you're going to end up with the direct method anyhow.

Dr. McIver: We would like to discuss at this time some of the features of treatment and in treatment I think we must include at the present time palliation, as you are fully aware many of these cases end up requiring more by way of palliation than treatment. We would like to mention the possibilities at the present time which include in our present state of knowledge the various forms of irradiation, surgery, and most recently, chemotherapy. We

might start this discussion of treatment by getting Dr. Sosman to give us a word or two about irradiation in carcinoma of the lung.

Dr. Sosman: We are having fewer and fewer cases for palliative therapy because the surgeons are doing better and better in radical removal. We take patients for palliation by x-ray or other forms of irradiation chiefly for symptoms. We don't pick patients with inoperable carcinoma or recurrent carcinoma of the lung or recurrent carcinoma simply because he has it. We treat him because he has some symptom which is making him uncomfortable which we think we can relieve. One of the basic principles in deciding whether or not we will accept such a patient and give therapy is whether we can hope, reasonably hope, to alleviate that patient's symptoms. Those symptoms are frequently painful. Pain from metastasis, metastatic invasion of the bone particularly can frequently be relieved by x-ray or radium therapy. Cough very often can be relieved by treating the intrabronchial mass which produces the cough. Hemorrhage can also be relieved. I do not think irradiation could be used in a palliative case or an inoperable case just because there is some cancer there when there is no hope of curing the patient. I think that covers my basic beliefs on that subject.

Dr. McIver: I think Dr. Sosman has pretty well left us now with the impression that with the present state of events that surgery is our main weapon against carcinoma of the lung, We might also polish off another aspect of therapy, and just mention chemotherapy. We discussed this before the meeting and I thought that I would just throw in a word and get that out of the way. I think that at the present time, chemotherapy does not offer much in the way of hope of cure of carcinoma of the lung, but of course with the intravenous route and the direct drainage of the systemic venous blood to the lungs, you have a relatively ideal situation in which you can put a chemical into the blood stream and the first capillary bed it hits is that of the lungs. We all believe, I think, that the future perhaps lies in this field. At the present time I think it is not the answer, although there are some encouraging results being reported with nitrogen mustards and drugs of that type. These chemotherapeutic agents are most useful at the moment in pleural effusions, where they do not cost so much as radioactive gold and some of the things of that type. I think these fields are extremely interesting. I think that they are quite useful in a limited way, but I am not yet aware of any cures in this field, and so will not spend any undue time on that.

Dr. Overholt: I would just like to mention that I am unhappy when anyone has to talk about palliation, because to me palliation means a medical failure. If we have to use palliation we fail to make the diagnosis early enough. That to me is the great lesson to learn from anyone having to talk about palliation. Unfortunately, we do have to deal with palliative procedures, but we would have no need for them if these tumors could be discovered early enough, so that the failure is either in diagnosis or in public relations between the medical profession and the public. If every individual especially every male over the age of forty, had a roentgenogram taken twice a year I doubt, Dr. Sosman, that we have to deal with palliation.

Dr. McIver: I think we have now prepared the way for the discussion of the chief item in therapy and that is surgery. I hope during this time, Dr. Wright, that you will give us some ideas on the study of patients in preparation of surgery—pulmonary function studies and things of that sort which we can all use. At this moment though I wonder if Dr. Overholt wouldn't give us some comments on surgical therapy of carcinoma of the lung.

Dr. Overholt: Dr. Sosman and Dr. Wright have both indicated that if we are going to salvage patients we will have to rely in the present state of knowledge upon the excision of the cancer at a time when it is still growing locally in the lung. If we find an abnormal shadow in a survey film, and if we have no satisfactory explanation for the presence of that shadow, and if there is no absolute contraindication to opening the chest and looking, we have to rely on the direct approach of separating the ribs and looking and seeing what is the substance that has produced the

shadow. Here is what the surgeon sees when he first opens the chest, you see an inflated lung with some positive pressure given by the anesthetist and you see a free fissure here and a cleft here of the minor fissure, this happened to be in the lung of a patient being operated upon for a heart lesion, but it gives you the appearance of the lung. We have a delicate structure and a space with a single organ occupancy, this organ having the least density of any organ in the body. It permits the surgeon to inspect and to palpate and to deflate this lung and lesions down to the size of a millet seed can be found on palpation and inspection and removed.

Here is a slide and you see the lung which is not normal. Now what has caused that shadow? A few years ago, it was necessary to remove an entire lobe and use that as the unit of excision, but now if all tests have been negative, if the cytology has been negative, if bronchoscopy is negative, we look for lymph nodes and the next thing to do is a total biopsy by removing a segment.

Here in this slide you see that we have enucleated that segment and the pathologist gets the entire substance that has produced the abnormal shadow and then he decides after microscopic examination.

Then we may find a larger area puckered. It would be impossible to totally remove this lesion by segmental resection so the lobe is taken off for total biopsy.

Now when we open the chest we may find if there is not positive pressure, that the air leaves the lung, it collapses, and we then see normal lung, appearing like liver here, but the diseased area has trapped air and we immediately see that there is something wrong with this portion of the lower lobe.

On inflation the healthy lung comes out and we then have the abnormal segment showing. If nodes are negative, and if previous studies have not yielded tumor cells, we then do a segmental resection for total biopsy.

Dr. McIver: Dr. Overholt has mentioned taking out a segment and sending the pathologist the total lesion for study. It seems to me that there might be two points to consider in that connection: 1) the value to the pathologist of having the total lesions to examine as opposed to a small portion, and 2) the possibility of spread of cancer cells into an open pleural space if you cut directly into a lesion for biopsy at the time of surgery.

Dr. Pratt-Thomas: I certainly think that total excisional biopsy is much the more preferable. I think it is ideal. You must remember that we can't take these specimens over to the lab and spend 24 hours processing them, we have to do them in ten minutes. Frozen section technique is not the best technique in the world but it can be very effectively handled when you're given enough tissue to work with. If you give a tiny little sliver of tissue that practically is technically virtually impossible to handle, we have a hard time making the diagnosis. Whereas if we get a nice segmental resection as Dr. Overholt so graphically illustrated for us, it gives us a real fighting chance to make an accurate, quick diagnosis and I am certainly totally in accord—you know what kind of excisions we make in our operations—and I would like to project that into biopsy material as well, the more it is the better we like it. I do think that it is a very valid procedure and certainly we should have the knife excise or enucleate the lesion without passing through the neoplastic tissue and by all means try to encompass the lesion if that is at all possible. At least that would be my view on it by all means.

Dr. McIver: After all this is rather a destructive procedure, going in and taking out a man's lung—the surgeon always wants to take the whole thing if he can—almost always. It sounds pretty destructive, but you're up against a tough problem. I wonder if Dr. Wright has any comment about this.

Dr. Wright: Of course the internist in most practices has to live with the patient after the surgical procedure, Dr. Overholt. It's very important to us to have some knowledge of the condition that the patient will be in after the surgical procedure is finished. There are a number of comments that I would like to make along this line. First of all, the question of how much injury is caused by an exploratory operation which as I mentioned a moment ago I feel very radical about. I can say to you that we

have made very exhaustive and I think quite precise studies of the degree to which thoracotomy interferes with the respiratory apparatus in a fairly large number of patients. If no pleural complications occur, I can assure you that there is no measurable loss of breathing ability. Now when I say if no pleural complications occur, I say that advisedly, because here comes a matter of choice of surgeon. I'm sure our panel surgeon, Dr. Overholt, would not want to make this comment, but I'm going to make it. Thoracic surgery is not the job for a general surgeon. It is a specialty and the comments I have to make concerning the end result in terms of pulmonary function are made with reference to having the operation done by a competent and adequate thoracic surgeon. This is not a stigma on the general surgeon, it just simply means that the experience inside the chest is one that you must have daily if you're going to do a proper job. If the job is done properly, when the lung is re-expanded following thoracotomy and removal of whatever tissue is necessary to make the diagnosis, there is no bad end result. Some of you may say, well, don't you need the pleural space? You do not, the elephant has none. There are a number of other mammals that have no pleural space. The question of what happens after a lobectomy; there is some loss of useful lung if the tumor has involved only a small portion of the lobe. If the tumor has by reason of retained secretions involved the major part of the lobe, then there is no loss. The damage was done before the surgeon got hold. For a pneumonectomy the same thing holds except that in pneumonectomy there is some measurable loss of pulmonary function. One cannot produce a new vascular bed and if good vascular bed is removed, there is undoubtedly very measurable loss, not only in pulmonary function, but in circulatory function. The vascular bed is now smaller, the heart must pump all of its blood through a single lung and pulmonary artery hypertension is more apt to occur after pneumonectomy than after lobectomy and is more apt to occur in the normal man as he gets older than it would in a person who had two good lungs. Generally speaking, I would say that this is not a mutilating procedure. It is not a procedure that will disturb pulmonary function to a significant degree. I can be absolutely flat-footed in saying that the gain is well worth what little risk there is. I wonder if you would object to a little public relations? You know the old medicine men used to go around and put on demonstrations and so on. I wonder if all of us here would stand up and take off our coats for a minute and then I'll give you the punch line. You all don't have to stand up, just the panel, however, you may take off your coats. Now, the reason I asked the panel to take off their coats is this. A demonstration is worth a great deal more than all the words I can give you. One member of this panel had a pneumonectomy for carcinoma of the lung in 1952. Just looking at us, I wonder if you can pick out the member. I don't think you can. The member was the one who suggested that we do this, and I therefore feel sure that he has no objection to our naming him, Dr. Sosman in 1952 had a pneumonectomy.

Dr. Sosman: After those diagrams and roentgenograms, I think the only important thing left is the selection of the patient for the operation. The criteria for inoperability are not too definite. The only real, dependable sign in my experience of inoperability is a definite metastasis. For that reason, at our hospital the thoracic surgeon has been doing a routine exploration of the supra-clavicular area down in the mediastinum, and if he finds an involved node with carcinoma in it that patient is inoperable. If he does not, he goes ahead and explores the lung. Here are some of the carcinomas which are inoperable. The one marked "A" is the classical Pancoast tumor which involves the pleura over the apex frequently invading the ribs and causing the well known Horner's syndrome. As far as I know those are completely inoperable. All the rest of those may be not only operable, but curable. These are the early tumors, many of which are picked up by routine x-ray examination. This is the classical undifferentiated carcinoma, the oatcell type and the only one of the entire group which is really sensitive to x-ray therapy. If you find a node in a case like that you have a great deal of reason and bene-

fit from x-ray therapy.

The next slide shows the same group of tumors in the advanced stage when practically all are inoperable. The Pancoast tumor has invaded not only the pleura, but the nodes; here "B" has broken down forming the cavity, which may be mistaken as a lung abscess; "C" has involved the pleura. As far as I know, Dr. Overholt, pleural involvement is one of the criteria of inoperability. "D" has gone septic with numerous cavities in it. That is one of our biggest handicaps. The patient comes in with pneumonia, and is presumably treated for a long time as having pneumonia when really there is an underlying carcinoma. Any pneumonia that doesn't cure promptly should be either explored or have all of the searches made as we have detailed them before for the underlying carcinoma. I think the selection of the patient for the operation depends upon the x-ray, depends on the pulmonary function test, and to convince the patient and the doctor, I think bronchoscopy and cytological study are the best thing.

Dr. McIver: At this point we will discuss some of the points in etiology and prophylaxis of carcinoma of the lung. I think that everyone has an opinion on this subject and I think that all the opinions are different. At least we will hear a few of them today. Dr. Overholt, I know, has an opinion on this subject so I will ask him to start the ball rolling.

Dr. Overholt: A good many years ago Dr. Lombard, who is the Director of cancer control in the state department of public health in Massachusetts, made a study of the relationship between smokers and non-smokers as to the attack rate. This slide was made up from information that Dr. Lombard gave to me recently on the relationship of smoking, the amount of smoking and the attack rate in Massachusetts. The death rate for non-smokers is running at 5/100,000. If a person has smoked a pack of cigarettes a day for nine to twenty-four years, the attack rate jumps up to 25. If one has smoked an equivalent of say a pack a day for fifty years the attack rate goes up to 80. If one smokes two packs for twenty-five years, he would be in the 80 category. There have been about 15 studies made throughout this country, Switzerland, and England indicating that there is a common denominator here in that patients who have smoked cigarettes heavily are more apt to get cancer of the lung than non-smokers. Of course you all know about the statistics of the American Cancer Society.

Dr. Hammond gave me this slide which he showed at the AMA meeting last June in California in which they found that the death rate of men over 50 was accelerated among cigarette smokers by about double in the various groups, starting here at 50 the death rate for non-smokers is 1,000 per 100,000. The death rate for cigarette smokers is about 1,600 per 100,000. When they get to the age 60 it is two-and-one-half for cigarette smokers.

They thought maybe this accelerated death rate among smokers was due to the high incidence of cancer of the lung, so they took out all of the cancers of the lung and they find that cancers in all instances are about double in those who use cigarettes. You see here at age sixty in those who never smoke the death rate is about a little under 300, those who are cigarette smokers jump up to three times the incidence of cancer in the bladder, the stomach, all other organs exclusive of the lungs are three times as great in the smoker compared to the non-smoker.

In the incidence of fatal heart disease it was found to be about double in smokers as compared to non-smokers. This was the chart that so alarmed the American Cancer Society that they felt it necessary to bring out these figures before the American Medical Association last year. Here we have a habituation, the inhalation of something that accelerates death rates.

If you take all of these cancer figures and break them down into groups, on the basis of one hundred in each group, you start out with one hundred people, non-smokers at age 50. At age 65 you will have 83 living. If you take heavy cigarette smokers starting at age 50, at age 65 you will have 68 living. That's the evidence. It has been established beyond any doubt that the habituation to tobacco, if one practices inhalation, accelerates the natural aging process, increases cancer of the lung by ten times, cancer in all locations by two-and-

one-half times, and coronary artery disease by over two times. As doctors, we must face this issue and we must decide what we are going to do about this problem. Are we going to advise our children, our wives, our friends to continue smoking in the face of this evidence and I think myself that the best way that we can carry out our mission as guardians of the public health, if we are smokers ourselves is to give it up, because it is impossible to ask a patient or a young high school student to give up this practice unless we are willing to make that sacrifice ourselves.

Dr. McIver: I can see all the people back there putting out cigarettes, getting all tuned up to ask Dr. Overholt how that smoke gets in the bladder. We are not going to pause for that right now though. We are going to ask Dr. Pratt-Thomas to make a comment or two about this from the pathological point of view and then maybe we'll get around to some of these questions that I know you want to ask Dr. Overholt.

Dr. Pratt-Thomas: Please show again one of Dr. Overholt's slides—the one with the pretty diagonal lines running across it. The best thing you can see obviously that you can do if you are going to continue smoking is for some very obscure reason to combine your cigarette smoking with other forms of tobacco for that is not as bad when you smoke cigarettes and other types of tobacco as if you smoke cigarettes alone. That to me is a remarkable state of affairs, statistically speaking, that I frankly cannot understand any more than I can understand about the carcinogens getting to the bladder. I frankly feel that this is a problem which is not yet as definitively solved as Dr. Overholt has indicated. He feels strongly, I don't feel as strongly in the opposite direction as he does, but nevertheless I am not quite in accord and agreement with him. I think that it has been pointed out by numerous people who have studied statistics that this is a game and a science unto itself, and I tell you if there is anything about an article that gets me buffaloed is to run across one of these things that show all these little pyramids that go up halfway and then come down, then they cross this way and that way,—you can do wonderful things with any kind of statistic, just like someone facetiously said the other day that you could work out a relationship between the amount of flying that is done today and hypertension — both of them up — I don't know whether that was what he was driving at or not. There is a trite example that when more whiskey is manufactured in the United States, particularly moonshine, that the salaries of all ministers go up. It just simply means that when economics in general are good, the salaries of both the people who buy the whiskey and the ministers will go up. You have to have a very sure and certain basic premise before you can prove this sort of thing. I do think that it is unquestionably shown that there is an association between longevity and smoking, but I'm not so sure that that might not be in the inherent make-up of the individual in which these other factors, possibly not entirely incidental, but more incidental than not.

Dr. McIver: We have two others who have not spoken yet and I wonder if either of them have a comment.

Dr. Sosman: There is no better missionary than a reformed sinner. I'd like to say that I quit smoking three years ago, but I had been smoking two packs of cigarettes a day for almost forty years and I would also like to tell about some of these figures which may lie. That is that Dr. Lombard's very careful analysis of physicians in Massachusetts who smoke show some interesting and perhaps important things. One of them was that if a man quit smoking after having smoked for twenty, twenty-five, or even thirty years he immediately fell into a class 50% below the other class who kept on smoking as to the incidence of cancer. So that stopping smoking, even if you have smoked thirty years will cut down your chances of getting cancer of the lung 50%. The second thing he showed was the number of doctors who had stopped smoking in the last five years was tremendous in the state of Massachusetts. He classified them by their different specialties. Near the top of the list were the highest number who had stopped smoking were the nose and throat men and the cardiologists. Along about the center were the surgeons, surgeons are certainly some of

the most kinetic people; it is kinetic energy that you think causes a high death instead of cigarettes. Way down at the bottom were the psychiatrists and the proctologists.

Dr. McIver: After all, I think that those of us who are more enthusiastic about this as a possibility still allow for, say, one out of five who get carcinoma of the lung from some other cause, and maybe Dr. Wright will have some comment about that. What about the matter of inherent tendency, what part does that play in this matter of etiology?

Dr. Wright: Well, it seems to me that the use of the word "cause" is the root of our difficulty. Some use this word to mean that the agent specifically causes whatever the result is. I think we are using the notion that cigarette smoking is associated with the incidence of bronchogenic carcinoma in a little different way. I don't believe there is anyone who when he thinks through it really means to infer that it's the cigarette smoke or its contents per se which has been shown to be the cause of carcinoma of the lung, because carcinoma of the lung occurs in people who have never smoked. It seems to me that this is where the thing that you're mentioning comes into play, that we are all cancer prone. Some more so than others on the basis of our inheritance. If we could live long enough, I don't know how many hundreds of years that would be, probabilities are that we would all end up with some kind of thing that we call carcinoma. Smoking may better be thought of as an accelerator, a thing that makes you develop the carcinoma that you would have gotten at the age 150 instead of getting it at the age 40 or 45. To that extent I think that one might talk about inheritance as a cause, even that is not the cause. The true cause of why the cells begin to grow wild and behave as carcinoma cells do, lies probably in their metabolic processes as certain information now seems to suggest. However, I don't believe that that is what you wanted to discuss at this moment.

Dr. Overholt: Here in this slide you see the normal bronchial mucosa, the cilia. They are finding various changes in this mucosa, metaplasia, the cells pile up and then later break down to form cases of carcinoma in situ. It seems to me that this may be the key to this problem if we could find that smokers develop metaplasia and carcinoma we will have very definite proof.

The thing that bothers me about this most is the effect on the bronchial system and for every cancer of the lung case I see, I see ten patients who have disability, pulmonary disability because of the effects of smoking, and when they stop smoking their symptoms disappear. We see patients come in who are short of breath; bronchography is done and we see this tremendous bronchospasm. A typical picture is seen in patients who have smoked for long periods of time; there is an irritation there that keeps the bronchial system in a state of spasm. Many patients will have a morning cough.

Dr. Pratt-Thomas: I agree with Dr. Overholt, as a matter of fact, I think he stole some of my thunder. After I make this statement you are going to think that the remarks have been paid for, that is not the case. We are, if I may pardon the personal reference, quite elated to be participating in this same survey that Dr. Warren and his associates are carrying on, in studying multiple sections of carefully dissected lungs and correlating the same with the cigarette and environmental history of these people, I believe that that furnishes a very worthwhile approach to the problem, the kind of approach which I like, because it's on a slide, it's true, it's under the microscope, and when I can see histologic changes associated with smoking, etc., then I am going to jump right on Dr. Overholt's bandwagon, until then I'm not. Incidentally, the tobacco companies are sponsoring this thing so you know that they are interested in it all the way.

Dr. McIver: Have any of you any comment about the direction in the research field in carcinoma of the lung?

Dr. Wright: There is an awful lot of research still to come on tobacco. I don't think for myself that that is a closed book by any matter of means. The association seems to have been quite well shown, but every statistician of any experience will immediately tell you that associations are not extrapolatable in terms of cause and effect. The information that

Dr. Sosman just gave us about the lower incidence of bronchogenic carcinoma in those people who gave up smoking is new to me and seems a little more along that line. I really think, as much as I don't like to talk about palliation, that along the lines of better ways of getting radiation to the tumor or getting chemotherapeutic agents to the tumor will be perhaps our most profitable immediate avenue of approach. As it stands now, if the surgeon cannot remove all of the tumor the radiologist is up against it, unless the tumor is right under the chest wall. In order to treat the remaining abnormal cells he has to run the risk of producing a very severe irradiation injury to the lung and skin. There are many projects going on at the present time attempting by means of such things as radioactive gold and radioactive silver to get these substances taken up by the lymphatic system in the lung and the irradiation is carried right to the tumor cells. Then, of course, there are chances of straightforward chemotherapy — things along the lines of nitrogen mustard. Nitrogen itself is pretty well understood, but other materials of that nature which might act directly—I should think that you could tell us more about that since it is in your own bailiwick. I would like to ask you what's new in that.

Dr. McIver: I think that Dr. Pratt-Thomas is now doing some investigative work in this line. Perhaps he has a comment about future work in carcinoma of the lung.

Dr. Pratt-Thomas: I think that Dr. Overholt feels as I do that this anatomic-pathologic study in relation to smoking and environmental habits is going to be very worthwhile. In addition to that there has been a great deal of criticism involved in the past about stating whether or not cigarette smoke and its tars and condensates were really carcinogenic. At the present time there is a vast program going on in which cigarette condensates, its tars, its oils, and gases are being collected under situations which most closely mimic human consumption of tobacco. In other words, you can't heat these things too much you have to figure on the paper that's in them, the filters in them and all kinds of things. Anyway, they are trying to make it as fool-proof as possible to get the same thing condensed into an ampule that the human body takes in when a cigarette is smoked. Now with that material, and with its fractions there is going to be a tremendous stimulus, I think, to try to find a laboratory animal—probably the internal part of the laboratory animal rather than the skin surface which is not quite comparable to bronchial mucosa, but to find a laboratory animal which will react in some valid sort of way to these various coal tar fractions, tobacco tar fractions, and if we can pin-point and see just what stimulatory effect each of these fractions may have on animal tissues in various places, which is being done at the present time, I think that we will have a very valid tool for investigation. I am very enthusiastic about that; the idea of trying to take the tobacco distillates and transpose them into a valid animal experiment to see what happens. If we can find out that there is something in there that is definitely causing the effect, then I am quite sure that the chemists of this country can take it out in no time at all so everyone can go on smoking again.

Dr. McIver: If there are questions from the floor we will be glad to hear them at this time.

Question: Is there work going on at this time directed toward the possibility that "things" which are put on tobacco in its preparation or its growth, for example insecticides, etc., the possibility that those may be important in the etiology of carcinoma of the lung—are those things being investigated?

Dr. Wright: The only thing I know about that is that arsenic has been under study because arsenic has previously been alleged to be a tumor producer. The experience is not the same in all countries in regard to cigarette use and the instance of tumor. There are some areas in which there appears to be no relationship. In England, the United States, and to a lesser extent, Switzerland, there is a strong relationship. The one thing that seems to differentiate is that in these countries where there is no demonstrable relationship the arsenic content of the tobacco is much lower. The United States apparently has a high arsenic content.

Question: What is the percentage that you

may expect in exploratory thoracotomy to turn up with carcinoma of the lung? What percentage will turn up with tuberculosis, bronchiectasis and other diseases?

Dr. Wright: Those figures will depend almost entirely on what sort of material you are originally dealing with. Obviously the man who works in a tuberculosis out-patient clinic is going to have an entirely different experience from that of someone who works in a place which is called a screening clinic. You can find published in the literature figures on coin lesions, which is what I think you are talking about, where the diagnosis cannot be established as a rule except by exploratory operation. The figures run anywhere from roughly 20% to 70% to be some kind of tumor. They are not all squamous cell carcinomas, but it turns out to be some sort of tumor in 20% to 70%.

Dr. Sosman: If you take only patients who have asymptomatic lesions, the cancer potential has turned out to be in our hands about 16% for malignant lesions. The total incidence of tumor, that is benign tumors and other neoplastic lesions, run about one-third of the total. Another third is made up of necrotic granulomata many of those being tuberculosis; the other third, a mixed group of cysts and other abnormalities. The important thing is that if one has a patient with a silent shadow, it is important to balance the risk of the cancer potential to that patient against the risk of exploration. It's just as simple as that. If we're going to outline a program which will be safe for the patient, then the risk of the exploration must be definitely under the cancer potential of the abnormal shadow. The risk of exploring the chest is a fraction of 1%. If one does find a cancer and it is a silent cancer, the risk then goes up as one has to do a larger resection, but that risk runs about 2%. If the cancer potential is 16% to 20% then it is 1/30 or 1/50 as hazardous as the wait-and-see policy.

Question: If the radical operation is contraindicated should x-ray therapy be given?

Dr. Sosman: I think the answer is that if you can give it without doing any harm, if you can do it without making the patient worse and instead give him some relief or benefit it is certainly indicated. Many of these patients are pretty far gone, they come in late, operation is contraindicated because there are metastases or some pleural involvement. Probably the nicest thing you can do is to let him die in peace. It all depends on the stage of the disease and the condition the patient is in.

Question: That was not exactly my question. I mean in a patient with a small carcinoma, but because of other conditions such as emphysema or something else, is there any chance of making therapy cure the disease?

Dr. Sosman: Yes, there is. I see that the question is different. A small lesion which would otherwise be curable, but the patient cannot be operated upon because of say an emphysematous condition. I think there you are justified in trying to cure your patient on the best possible application of radiotherapy you are able to give.

Question: In managing patients it's sometimes necessary to use frank psychotherapy. Do you have objections to the use of irradiation as a form of psychotherapy?

Dr. Sosman: I certainly do. One of our greatest difficulties in the state hospital is to try to put off the surgeons or the internists or the family physicians who insist on giving x-ray thrapy in order to satisfy the patient or his family. Our answer to that has been in the past we should not substitute x-ray therapy for the last rites.

Question: Does involvement of the nerves, that is, phrenic nerve paralysis or invasion of the pleura contraindicate surgical treatment?

Dr. Overholt: My answer to that is, not necessarily. My feeling about the surgical treatment is that we should decide whether or not there is a reasonable chance that we can remove the cancer-bearing tissue or the cancer-bearing lobe or lung together with immediate direct extension of the tumor. I firmly believe that you can benefit patients who have some extension, even an extension to the chest wall, because the extension itself can be removed with the lung and one may enucleate the entire pleural sac with the lung and give that patient added years of life. The involvement of the recurring nerve indicates extension

in the aortic window and one may clean out the aortic window and clean out the mediastinum and the patient will live longer than if you leave the lung and the tumor behind. Furthermore, one may resect portions of the pericardium and that is necessary when the phrenic nerve is involved, but that does not mean that the tumor is beyond the limit of surgical removal.

I would like to show this slide which shows the result of surgical treatment in two categories of patients, which answers your question. This represents survival rate of people we've either treated by x-ray or have given no treatment. There is very little difference in people treated by radioactive gold or patients in whom no treatment was given as to survival —there was a difference of only about a month. We've grouped them together and in this group only 8% lived one year and under 1% lived two to three years. We did palliative resections on 112 patients and we have 41% living one year and 25% living two years and 15% living three years and those patients were more comfortable. They had less cough, less discomfort, less pain. When they did die they died suddenly without discomfort. We think that surgical incision in the cancer bearing lung, even in the presence of metastasis, is the kind thing to do. This bears out this contention that we can improve upon the terminal fate of these patients, and actually prolong their lives. We have here 11% of that group going five years, whereas we have none in this other group. Of those in whom the lung was removed, where there was no evidence of extension, we had 74% living one year, 62% living two years, and 41% that lived five years or more, so the important thing of course is to discover the lesion before it leaves its original site, but it is also important to remember that we can help many patients who do show evidence of some extension beyond the lung.

Question: Dr.Sosman recommended chest x-ray every six months and Dr. Overholt said every year—how often should this x-ray be made?

Dr. Sosman: A man over 40 who smokes cigarettes should have a roentgenogram made every six months. A non-smoker should have one once a year.

Dr. Overholt: I agree to that.

Dr. McIver: Dr. Wright, what do you think about that small margin of non-smokers; do you think they can go a year?

Dr. Wright: If you happen to be the non-smoker and miss your carcinoma of the lung for a year, I think it's tragic for you. To me the cost of taking the film twice a year is very minor in amount for the tremendous advantage which you will have. I for one, as I said earlier, strongly recommend that all people over the age of 40 have a roentgenogram twice a year.

Question: I would like to ask Dr. Sosman what he thinks of the 70 mm. photo-roentgenograms survey film as adequate for this frequency film.

Dr. Sosman: I think it's perfectly good. Just like a good many other things in medicine, it's not the machine or the technique, it's the man who reads that film. The big difficulty in that 70 mm. photofluorogram is that the basic experienced person in the x-ray department is usually assigned that job of reading the little films, because it is routine and uninteresting. Chances are that he will miss lesions that Dr. Overholt and Harold Pettit would pick up easily on a big film. It's not the size of the film, but the person who reads it. If you're going to have a routine film taken you'd better go and have your best radiological friend and have him do it with a big film .

Question: Should diabetics have these routine twice a year roentgenograms of the chest since they have a higher incidence of tuberculosis?

Dr. Sosman: Yes, I think that all diabetics should have a chest roentgenogram twice yearly and more frequently if they are losing weight; if there is any sign at all that they are not doing well.

Editorials

OPTOMETRY EYES THE OCULIST

The current situation is reminiscent of that of the ravenous small boy who was told that his eyes were bigger than his stomach. Now it seems that in South Carolina the optometrist's eyes are bigger than his education, and his ambition is yearning to take over from the ophthalmologist the field of prescribing glasses.

The optometrists now prescribe a vastly greater number of glasses than do the physicians. They do not pretend to a knowledge of the pathology of the eye, but they wish to be recognized as competent examiners for the official agencies of the state. It is even rumored that it is the desire of the optometrists to exclude the ophthalmologists from the practice of fitting glasses. Given legal status, they might by pressure and advertising bring about such a situation and make serious inroads on the proper practice of medicine.

It should be the interest of all physicians to oppose this effort. The position of our ophthalmologists is expressed in the letters published in this issue of the Journal.

THE MEDICAL AUTHOR

Disturbed by the fact that most doctors are poor writers, a group of interested physicians formed several years ago The American Medical Writers Association, a body devoted to improving the quality of the writing of medical papers. This Association has grown rapidly and has made much progress in sponsoring efforts toward spreading the gospel of decent writing. It has provided scholarships for the courses in medical journalism now available, and offers a service for editing manuscripts. Its purpose is to help the author to express himself "accurately and with grace, precision, emphasis, and economy".

Do we lack writing ability because we have been told in our college days to concentrate on the sciences? The present emphasis on the need of a broad cultural pre-medical training may help to correct the situation. At least there is here now an effort to do something about our admitted deficiencies.

The British make medical reading much less painful than do our own writers. According to some critics, the easy writing sacrifices accuracy and clarity, but there is no reason why it should do so. There has to be a style which is both pleasant to read and clear in its statements, and we should cultivate it.

For those who would rather write than be president, it is most important that they write right.

MEMBERSHIP

Recently our President, Dr. O. B. Mayer, has stressed the desirability of enlarging the membership of our county medical societies. We lack many physicians who fail to join their local organizations either from apathy or misunderstanding. Medicine needs a united front, and all of us should make every effort to bring the absentees into the ranks for mutual benefit.

The man who is already a member but never attends meetings is of little value to our association, yet he acquires status from his membership and certainly will call for help from his fellows in time of trouble. Perhaps the fault is in the lack of appeal of some of our programs. The offer of food seems to be a great bait for bringing in the hesitant, regardless of programs. Surely a member should show sufficient group spirit to attend meetings at which matters of concern to the profession are discussed. Even if the scientific offering is out of his field of interest, it will do him no harm to know what his brethren in medicine are doing.

PETTY NARCOSIS

Practitioners who have been annoyed by the unnecessary restriction on prescribing the less dangerous narcotics are now relieved of the pressure placed by the Federal Commissioner of Narcotics. Now that codeine (as much as

eight grains to the ounce!), dihydrocodeinone, and certain other narcotic drugs can be prescribed orally, a considerable nuisance will be removed from proper telephone practice.

While strict interpretation by the pharmacist has been most commendable, it is hard to understand the beaurocratic mind which conceived the thought that such impossible sources of addiction or poisoning as ear drops containing a little benzocaine should be dispensed only on written prescription.

CORRESPONDENCE

Sept. 17, 1955

To The Editor:

The fight against naturopaths is an old story to you. What most physicians do not realize is that the E. E. N. T. men carried virtually alone during last year's session of the state legislature a fight against a bill the optometrists had introduced which bill would declare them virtually equal to any M. D.

The bill states that all courts of the state and all subsidiaries of the state government shall have to accept the testimony of an optometrist on the same level with that of a physician. That includes school examinations, highway department examinations, Department of Public Welfare examinations, etc. If, for instance, an optometrist certifies a D. P. W. applicant's vision is only 20/200, making him visually eligible for D. P. W. care, and that the vision cannot be improved, then the D. P. W. cannot refer that patient to a physician ophthalmologist for further evaluation. The applicant might have a softening of the brain due to lues as the underlying cause of the poor vision.

The terribly smooth catch that the optometrists used in arguing the case in open hearing before the legislative committee was that all they were asking for was the right to fit glasses and 'determine the presence of pathology'. 'If pathology is present we will refer the patient to an ophthalmologist.'

You and I know the determination of whether pathology is present is one of the most difficult problems of all medicine at times. And to be able to say that there is no pathology present requires judgment and training frequently even beyond the ability of the best-trained physician eye specialist. But it is difficult to explain this to a legislative committee, especially in open hearing.

Now, to the point. I am asking our Secretary to attach to this letter a copy of the proposed bill. Can't you help us by calling to the attention of the state medical association in the Journal the serious threat the optometrists are proposing to the health of the state? And that this threat is nation-wide, similar bills having been introduced in other states?

Thank you and with kindest regards,

Norman O. Eaddy, M. D.
Pres. S. C. Society of Oph. & Otorhinology

To The Editor:

The State *Optometric* Society is about to have introduced in the South Carolina General Assembly a bill suggesting changes in the Practice of Optometry, which are outlined below:

Section 56-1072. The testimony of an optometrist who holds a license to practice and is licensed and registered under the provisions of this chapter shall be received by any *official, board, commission or other agency* of the state or of any of its subdivisions or municipalities as qualified evidence with respect to any matter defined in Section 56-1051 of this chapter as constituting the practice of Optometry and no *official, board, commission or other agency of the state or of any of its subdivisions or municipalities shall discriminate between the practitioners of optometry and any other ocular practitioners.*

Section 56-1051. Optometry. Any person shall be deemed to be practicing optometry within the meaning of this chapter who shall:

(4) Examine the human eye by the employment of any subjective or objective physical means, without the use of drugs, to ascertain the presence of defects or abnormal conditions for the purpose of relieving them by the use of lenses, prisms, or other physical or mechanical means;

(5) Practice orthoptics or prescribe or fit contact lenses.

You can readily see that optometrists and ophthalmologists will thus have the same status. This will give them legal status, to which their education and training does not entitle them. They are attempting to obtain something by law that is priceless—adequate education and training.

Please contact your senator and members of the House of Representatives immediately and fully explain the situation to them. DO NOT DELAY. Please act promptly and let me know the reactions you obtain. We must do our best to stop this infringement upon our rights as well as the rights of the laity. With kind regards,

Sincerely yours,
Roderick Macdonald, M. D.
Secretary-Treasurer,
South Carolina Society of
Ophthalmology and Oto-Laryngology

PHYSICIANS WANTED

Whitten Village, Clinton, S. C., population 1,750, wishes to employ two physicians, preferably not very advanced in age, and of good training, habits and ability.

B. O. Whitten, M. D., Superintendent

PRESIDENT'S PAGE

The Legislature convenes in a few weeks. There are a number of bills pending or probably to be introduced, which directly or indirectly will affect the medical profession and their patients. Among the bills may be mentioned the Optometrist Bill, the Care of the Indigent Bill, the Workman's Compensation Bill, and the Naturopathic Bill. These bills should be studied by each member, who should familiarize himself with the proposed legislative changes. The county or district societies might consider having their local legislative committee explain the meaning of the proposed changes which would follow enactment. Such meetings might be held before the Legislature meets. The State Legislative Committee consists of Dr. F. C. Owens, Columbia, Chairman, Dr. W. W. King, Batesburg, Dr. L. D. Lide, Florence, Dr. G. H. Orvin, Charleston, and Dr. John M. Pratt, York. These men will play an important part in the legislative program. I feel sure that the Legislative Committee and the district councilors will gladly help with the county society programs. Mr. Meadors in Florence can furnish such information about the bills as is available.

Your Councilor will welcome his respective society's opinions so that he may pass them on to Council, who will unify the opinions and set the policy that we may all follow. Dr. Joe Cain, Chairman, will keep you posted. Carefully consider all bills so that opposition may be expressed against ill-proposed legislation. To repeal later is more difficult. Every member has an obligation that cannot be ignored. A committee alone cannot cope with organized legislative efforts.

O. B. MAYER

NEWS

SOUTH CAROLINA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

North and South Carolina may be far apart on the question of liquor taxation, but they have been very successful in getting together their Eye, Ear, Nose and Throat physicians! For some years the South Carolina Society of Ophthalmology and Otolaryngology and the North Carolina Eye, Ear, Nose and Throat Society have held joint meetings alternating between the two states for place of meeting. This body has just finished its 9th meeting which was held September 11, 12, 13, 14 in Columbia with headquarters at the Hotel Columbia.

Dr. Jewel McLean of Greenville, retiring president of the South Carolina Society, conducted the general business and welcomed the members of both bodies along with the visiting specialists from the adjoining states of Virginia, Georgia, and Tennessee. The guest speakers were doctors who are among the nation's most prominent in their particular field of work, and were as follows: Dr. Frank D. Carroll of Columbia University at New York City; Dr. Robert Lewy of the University of Illinois at Chicago; Dr. W. B. Clark of Tulane University Medical School at New Orleans; Dr. F. Johnson Putney of the Jefferson Medical School at Philadelphia; Dr. Henry B. Perlman of the University of Chicago and Dr. E. W. D. Norton of the Cornell Medical Center, New York City.

In addition to the guest speakers, it is customary for one member from each society to present a paper before the joint assembly. The two men participating on the program in this capacity were Dr. David S. Asbill of Columbia representing South Carolina and Dr. William B. Anderson, professor of Ophthalmology at Duke University School of Medicine representing North Carolina.

Many social features always attract the wives of the members of the societies, who though unorganized, usually enjoy the fellowship as much as the men do. Dr. James Timmons of Columbia was chairman of the committee in charge of the local arrangements and was commended for his fine work and the hospitality of all of the Columbia Eye, Ear, Nose and Throat men.

On the second day of the meeting each Society held its own business meeting during a luncheon session at which time officers were elected for the next year. For South Carolina, Dr. Norman Eaddy of Sumter was named president with Dr. J. H. Gressette of Orangeburg vice-president, and Dr. Roderick Macdonald of Rock Hill, was re-elected secretary-treasurer. For North Carolina, Dr. James Peale of Kinston was chosen president with Dr. George Bradford of Winston-Salem vice-president and Dr. J. D. Stratton of Charlotte was re-elected secretary-treasurer.

The Educational Committee, consisting of the above officers with three members of both groups planned to meet in Charlotte on September 25 to make plans for next year, and everyone will be interested to know what place in North Carolina will attract the group for next September.

Dr. Benton A. Matthews, surgeon, is one of Hartsville's latest newcomers, and has been associated with Dr. W. L. Byerly, Jr. since the first of August. His sub-specialty is urology.

Dr. Matthews came to Hartsville from Charlotte, where he completed four years chief residency in surgery at Charlotte Memorial hospital, completing five years surgical training following his graduation from medical school.

Dr. Robert P. Thomas, who has opened offices at Bluffton and Hilton Head for the practice of general medicine. A graduate of the University of North Carolina Medical School, he attended the University of the South and interned at Roper Hospital, Charleston.

Dr. William Lowell Harritt has opened an office for the general practice of medicine at 232 Broad Street, Sumter.

A 1944 graduate of the U. S. Naval Academy, he has 10 years service, 1938-1948, in the Navy. He studied at Butler University, Indianapolis, Ind., and at the Indiana University School of Medicine. He was awarded his MD in 1954 and interned at St. Vincent de Paul Hospital in Indianapolis.

Dr. Andrew H. Hursey of Darlington and Dr. William H. Bowen have opened medical offices in Hartsville.

Dr. Hursey, a native of Darlington, interned at the McLeod Infirmary in Florence.

Dr. Bowen, from Grenada, Miss., also interned at McLeod Infirmary.

Dr. Leon Marder has opened his office for the practice of internal medicine at the Professional Bldg., 103 E. North St., the public relations committee for the Greenville County Medical Society has announced.

Dr. Charles F. Timmons, Lake City, Captain, Air Force Medical Reserve, has been ordered to active duty in September and assigned to the Air University, Randolph Field, Texas.

Dr. Timmons is a graduate of the Medical College of South Carolina. He served his internship at the Medical College of Virginia Hospital at Richmond, and completed the subsequent year as a resident in obstetrics and Internal Medicine at St. Vincents Hospital, Norfolk, Va.

He has for the past three years been associated in the general practice of medicine with his brother, Dr. Thaddeus A. Timmons.

Dr. Joseph H. Marshall, Charleston psychiatrist with the Mental Hygiene Clinic since 1952, assumed duties as director of the clinic yesterday.

He succeeds Dr. J. J. Cleckley, who is head of the department of neuro-psychology at the Medical College of South Carolina.

Dr. Marshall is a native of Charleston and a graduate of the Medical College of South Carolina. He has been with the psychiatric department of the college since 1949.

He will continue as assistant professor in this department and in private practice.

Dr. Thomas W. Jackson of Bluefield, W. Va., has moved to Enoree where he has started his medical practice, using offices formerly occupied by Dr. L. L. Blackmon.

Dr. E. O. DeVore finished the Medical College of S. C., in June 1954 and from then until he began the practice of general medicine in Honea Path, he interned at Greenville General Hospital.

Dr. Landrum I. McCarrell and Dr. John H. Holliday announced yesterday that Dr. James E. Barnett will now be associated with them in the practice of general medicine. Their offices are at Travelers Rest.

Dr. J. C. Hill has announced the reopening of his office for the practice of medicine at his home, 35 North Main Street, Abbeville.

Dr. Dale Harro today joined the staff of the Charleston County Health Department as director of the prevention and control division.

He will replace the late Dr. Howard L. Cecil of the U. S. Public Health Service. Dr. Harro recently completed his internship at Episcopal Hospital in Philadelphia, Penn.

Dr. George Dean Johnson, Spartanburg pediatrician, tonight was presented the Service to Mankind award by District 8 of Sertoma International.

The district includes all Sertoma clubs in both Carolinas, Virginia, West Virginia and the District of Columbia.

The certificate was presented by Dr. Tucker Weston of Columbia, a director of Sertoma International.

Dr. Johnson is president of the S. C. School Boards Association and chairman of the Spartanburg city schools' trustee board. He is also a delegate to the American Medical Association from the S. C. Medical Assn., a past vice president of SCMA and past president of the S. C. Pediatric Society.

Oscar S. Reeder, M. D. announces the opening of an office for the practice of Orthopaedic Surgery, 154 Wentworth Street, Charleston.

The $338,000 Woodruff Hospital was opened in ceremonies October 16.

Two Florence doctors have opened an office at 376 W. Palmetto Street, for the practice of internal medicine.

They are Drs. Naseeb B. Baroody, Jr., and Waddy G. Baroody, Jr. Dr. Naseeb Baroody did undergraduate work at The Citadel and at Texas A. and M. College. He received his medical degree from Hahnemann Medical College at Philadelphia, in 1948, and took an internship at the Hahnemann Hospital.

For a period of six months, he took a post graduate course in internal medicine at Bellevue-Cornell in New York City and served a residency in pathology at the Charlotte, N. C., Memorial Hospital for one year.

He also served a two-year residency in internal medicine at Charleston's Roper Hospital.

Dr. Waddy G. Baroody, Jr., received the degree from The Citadel and a medical degree from the Medical College of South Carolina. He served an internship at St. Louis Mo. City Hospital, and a residency in internal medicine at Roper Hospital for two years.

For one year, he studied under a fellowship in gastroenterology at the University of Pennsylvania Hospital in Philadelphia.

He was chief of gastroenterology for two years while serving in the Army at Fitzsimons Army Hospital in Denver, Col.

SURGEON GENERAL COMMENDS SOUTH CAROLINA STATE PLAN FOR HOSPITAL CONSTRUCTION

South Carolina's annual State Plan for hospital construction was commended by Surgeon General Leonard H. Scheele.

Dr. Scheele approved the Plan, prepared for the State Agency by the Hospital Construction Section in consultation with the Hospital Advisory Council, on August 3. With his approval, he commended the State Board of Health on the foresight and originality of the Plan.

In an earlier letter from Dr. Paul T. Erickson, Program Director of Hospital and Medical Facilities, USPHS, the following comments were made: "The (South Carolina) State Plan has been reviewed, and we are pleased to advise you that this document is one of the best initial plans for medical facilities we have reviewed to date. The State Agency should be commended."

—News Letter

Dr. Seth F. Latham and wife, Dr. Elizabeth Boykin Latham opened offices at 190 N. Whiskey Road, Aiken. The former will specialize in obstetrics and gynecology and the latter in pediatrics.

The Lathams have been in Aiken approximately three weeks. For the past two years Dr. Latham has been in the Army Medical Corps at Fort Knox, Ken-

tucky and at Tripler Army hospital in Honululu, Territory of Hawaii. His wife served as a civilian pediatrician on the staff of Tripler hospital during the past year.

Dr. Latham was born in Greenville. He attended the Medical College of South Carolina in Charleston. Mrs. Latham is a native of Sumter and attended the Medical College of South Carolina. Both interned and received their residency training at Roper hospital in Charleston.

Dr. Richard M. Margolis has announced the opening of his office at 3218 Rivers Avenue, Charleston Heights. Practice limited to infants and children.

New officers of Piedmont Post-Graduate Clinical Assembly are Dr. George R. Wilkinson, Greenville, president; Dr. J. H. Young, Anderson, executive vice president; Dr. Ned Camp, Anderson, secretary-treasurer; and Dr. Robert Burley, Clemson, registrar. Dr. Duncan Alford, Spartanburg, and Dr. D. O. Rhame, Clinton are both vice presidents.

PHS CLARIFIES SALK VACCINE REGULATION IN PRIVATE PRACTICE

In response to an inquiry from this office, U. S. Public Health Service has clarified one of its regulations regarding the relationship between physicians in private practice and the Salk poliomyelitis vaccine inoculation campaigns. Under the regulations, no *public* inoculation program in the state, even if financed without federal help, may apply the means test to determine whether a family can afford to pay for the treatment. However, this still does not rule out the use by physicians in their private practice of vaccine purchased with U. S. funds. On this point PHS states:

"The restriction in the act against use of a means test . . . is not applicable to the administration of poliomyelitis vaccine by private physicians or nonprofit organizations when . . . not acting as employees or agents of a public agency, even though the vaccine may have been purchased with federal grant funds."

In this case there would be no charge to the patient for the vaccine, but the physician, in setting his private fee for his services, *would be permitted to apply the means test.*

REPORT OF THE COMMITTEE ON THE CONTROL OF INFECTIOUS DISEASES AMERICAN ACADEMY OF PEDIATRICS

In view of the information made available to the Committee by the United States Public Health Service, and by others, which indicates a trend in favor of protection against paralytic poliomyelitis in recipients of poliomyelitis vaccine; in view of recent improvements in production, and in the control and testing of such vaccine; the Committee approves the resumption of vaccination against poliomyelitis in the priority age groups established by responsible authorities at state and territorial levels.

The Committee commends the continuing efforts to develop further improvements in poliomyelitis vaccines and their methods of production and control; and the continuation of careful surveillance.

SOUTH CAROLINA PLAN FOR POLIOMYELITIS VACCINATION

PRIORITY

Vaccine purchased with allotments from the public funds will be used for the vaccination of children under 20 years of age and pregnant women. The priority age groups designated by the State Advisory Committee are in order:

First priority — 5-9 years and pregnant women
Second priority — 1-4 years
Third priority — 10-19 years

The age group 1-4 years has so much higher attack rate than ages 10 years and above that this age group has been given a higher priority than individuals in the higher ages in South Carolina.

The cooperation of physicians in adhering to the priority groups will be secured by letters and by articles in the county and state professional journals discussing the voluntary control plan, the progress of the vaccination program, and by moving to the next priority as promptly as possible. Members of the State and County Health Departments, Medical and Pharmaceutical Association Officers, and members of the State Committee will also discuss phases and progress of the program at society meetings.

ELIGIBILITY

(A) Eligible person means any individual who has not attained the age of twenty (20) years, and any expectant mother.

(B) That in poliomyelitis vaccination programs conducted by public agencies in this State no means test or other discrimination based on financial ability of the individuals will be imposed to limit the eligibility of persons to receive vaccination against poliomyelitis.

PROFESSIONAL PARTICIPATION

The State Medical Association voted at its meeting in May 1955 to:

"1. Go on record as being in favor of voluntary control of the Salk Vaccine, rather than Federal Control.
2. Give full cooperation to Public Health Authorities in this connection.
3. Urge each individual doctor, all factors being taken into consideration, to make an attempt to keep the fee for administering the vaccine at a reasonable level.
4. That the vaccine be administered without charge to those unable to pay if it is furnished by the patient."

County Medical Societies will appoint committees to assist the county health officer in the development of a plan for use of the vaccine in the counties and who will assist in the equitable distribution of the

vaccine to health departments and all physicians in the counties who have occasion to inoculate eligible individuals in their practice. The State Pharmaceutical Association has appointed representatives to the State Advisory Committee.

VACCINE DISTRIBUTION AND ADMINISTRATION

Vaccine will be distributed through normal commercial channels and through public agencies in South Carolina. Vaccine will be distributed as follows:

20% through normal commercial channels
80% through public agencies

This percentage distribution may be changed by the State Advisory Committee as necessity and advisability demands. Vaccine not purchased with public funds will be distributed through the normal channels of the manufacturer. Invoices of shipment of vaccine into the state and reports weekly from the drug distributors to the State Health Officer will show the distribution of the vaccine. Any inequities in distribution will be corrected in succeeding distributions by routing additional vaccine into areas of inequitable distribution.

RECORDS

All report forms, postage, and records necessary for the operation and evaluation of the program will be provided through the State Board of Health. Physicians and county health departments will keep a record of the name, age, sex and race, address, date of inoculation, site of inoculation, manufacturer and lot number of the vaccine for each child inoculated. The private physician will send his reports to the local health department at weekly or more frequent intervals. The county health officer will forward these physicians' reports together with those of the health department to the State Board of Health each week. These reports will be transferred to punch cards in the CTU and from these analyses will be made to determine the progress of the program by county and state.

Approved by the State Advisory
Committee on September 8, 1955.

AGE GROUP BROADENED FOR POLIO VACCINE

The State Advisory Committee on Poliomyelitis Vaccine Distribution and Administration has broadened the priority age group to receive vaccine in South Carolina to include all children under 15 years of age and pregnant women, with preference being given first to children under 5 years of age. It was the thinking of the Committee that since the peak of the polio season has past and with the present response of the people in getting the vaccine, that this entire age span can be inoculated in advance of the next polio season.

The first distribution of vaccine purchased with public funds will be made on October 24th. At that time there will be distributed to the counties in the State 69,970 doses.

G. S. T. Peeples, M. D.
State Health Officer

ANNOUNCEMENTS

The Tenth Annual University of Florida Midwinter Seminar in Ophthalmology and Otolaryngology will be held at the Sans Souci Hotel in Miami Beach the week of January 16th, 1956. The lectures on Ophthalmology will be presented on January 16th, 17th, and 18th and those on Otolaryngology on January 19th, 20th, and 21st. A midweek feature will be the Midwinter Convention of the Florida Society of Ophthalmology and Otolaryngology on Wednesday afternoon, January 18th to which all registrants are invited. The registrants and their wives may also attend the informal banquet at 8 p. m. on Wednesday. The schedule has been changed to provide a maximum time for recreation each afternoon.

The Seminar lecturers on Ophthalmology this year are: Dr. Francis H. Adler, Philadelphia; Dr. A. Gerard DeVoe, New York; Dr. Michael J. Hogan, San Francisco; Dr. C. Wilbur Rucker, Rochester, Minnesota; and Dr. A. D. Ruedmann, Detroit, Michigan. Those lecturing on Otolaryngology are: Dr. Frederick A. Figi, Rochester, Minnesota; Dr. Lewis F. Morrison, San Francisco; Dr. Charles E. Kinney, Cleveland; Dr. John R. Lindsay, Chicago; and Dr. Bernard J. McMahon, St. Louis.

DEATHS

DR. THEODORE CROFT STONE

Dr. Theodore Croft Stone, 82, of Greenville died at Brevard, N. C., September 24.

He was educated at The Citadel and the Medical College in Charleston.

DR. COYT HAM

Dr. Coyt Ham, psychiatrist and superintendent of the State Hospital from 1945 to 1949, died at a Columbia hospital October 15.

Born in Lamar August 22, 1892, Dr. Ham attended Furman University, the University of South Carolina and the Medical College of South Carolina.

He had served as a professor of psychiatry at the medical college since last year.

BOOK REVIEWS

AGEING—GENERAL ASPECTS — Edited by G. E. W. Wolstenholme and Margaret P. Cameron for the Ciba Foundation. Little, Brown and Co., Boston 1955.

A report of an international conference, a "colloquium" on the ageing process—comprising observations and opinions on the latest research in the field. The papers are stimulating and thorough, and make a fine collection.

The "cure" for ageing is not promised. Hurry, friends, before the best that is yet to be, is.

J.I.W.

NEW AND NONOFFICIAL REMEDIES—American Medical Association, 653 pages—J. B. Lippencott Co., Phila.—1955—Price $3.35.

This complete and authoritative book is almost too well known to require comment, but perhaps is not used generally enough to keep our heads above the flood of new remedies. All of us should have it as a pharmaceutical lifebelt to carry us to a safer therapeutic shore.

J.I.W.

A TEXTBOOK OF MEDICINE, Edited by Russell L. Cecil, M. D., and Robert F. Loeb, M. D. New (Ninth) Edition, 1770 pages, with 201 illustrations. W. B. Saunders Co., Philadelphia: Price $15.00.

This standard textbook of medicine has been extensively revised and brought up to date. It has been written by 172 American contributors. There are discussions of thirty-nine topics not previously covered. The arrangement of material, classification, and indexing seem excellent. The presentation of each subject is concise and orderly, as it should be in a work that encompasses in one volume such a very wide field. No space is wasted, for example, on dubious methods of therapy, and immediately at the end of each presentation is a very short bibliography. Throughout the book, firm and excellent editing is apparent. Somehow, even with the large number of contributors, a clear and easily readable style has been achieved with surprising uniformity. This is an excellent and very useful book.

James O'Hear, M. D.

THE SOUTH CAROLINA ACADEMY OF GENERAL PRACTICE

The South Carolina Chapter of the American Academy of General Practice held its Seventh Annual Scientific Assembly at the Columbia Hotel, September 27 and 28. This meeting excelled all others in attendance, exhibits, and the scope of the scientific program.

Reports at the meeting showed that the American Academy of General Practice has:

(1) increased its membership to become the second largest association of M. D.'s in the United States

(2) increased the field of its activities to become a potent influence in promoting the best interests of American medicine.

The requirements for admission to the American Academy of General Practice will be raised January 1956. General practitioners of the state who plan to seek membership in the Academy would find it advantageous to make application at this time.

The state chapter in business session expressed opposition to extending the limits of the Social Security Act. It was moved and passed that the South Carolina Senators and Representatives at Washington be advised of our opposition; and that the American Academy of General Practice be advised of our opposition and action.

The following officers were nominated:

President—Hervey W. Mead, Pendleton, S. C.
President Elect—Charles N. Wyatt, Greenville, S. C.
Vice President—Gustave P. Richards, Charleston, S. C.
Secretary Treasurer—Horace M. Whitworth, Greenville, S. C.
Director—George W. Price, Spartanburg, S. C.
Delegates: Charles N. Wyatt, Greenville, S. C.
Wm. H. Speissegger, Charleston, S. C.

The South Carolina Chapter of the American Academy of General Practice is again proud to sponsor with the Medical College of South Carolina the Post Graduate Seminar at the Baruch Auditorium, Charleston, S. C., November 1 and 2. This seminar preceded the Founders Day program of the Medical College on November 3.

SCISSORISMS

This one is resurrected from the *JAMA's TONICS AND SEDATIVES* of some time back.

THE SKIN MAN

Poem dedicated by an anonymous colleague to the practitioners of a most erudite specialty

O some may sing of the surgeon's skill, he wields a wicked blade.
While not a few prefer G. U., 'tis not a tidy trade,
Pure Science has her acolytes, a brave devoted band,
But I'd rather be a skin man and with the skin men stand.

Outside the throat room's dreadful door the knitting women wait,
While all unseen the guillotine keeps up its ghastly gait,
Like plums upon the dewy grass the tender tonsils fall,
But neither they nor adenoids intrigue my thoughts at all.

The skin man never is aroused as breaks the morning pale
By vehement parturient or ailing infant's wail,
Nor is he snatched from Morpheus' arms, from some delicious dream
To aid an old prostatic case who cannot start his stream.

Behind his broad expanse of desk, mayhap of tropic teak,
He views the rash and takes the cash and does it week on week.
His mind is calm, his spirit blythe, his future is assured,
For though his patients oft return they're never quickly cured.

With ointments bland he tries his hand to soothe, but ere too late
If soothing makes them worse again, then he can stimulate.
If stimulation aggravates, his course runs ever smooth,
For he can cease to stimulate and start once more to soothe.

No paladin of Arthur's age, no gleaming, crested knight
Of old Romance had such a chance his lady to delight,
For him that blush of damask rose, for him that downcast eye
Who drives the ringworm from her cheek, the itchmite from her thigh.

The lady fine, the concubine, the virgin and the priest
Discard their pants in Bacchic dance, from lues now released,
Tabetic and paretic in corybantic maze
Surround the guy that got them by and raise their songs of praise.

So farewell, dermatitis, from you forever free,
Good bye the bugs that bite us, the louse, the tick, the flea.
Edema, erythema, pruritus ani, too,
Like driven snow from head to toe, we bid you all adieu.

VIRGINIBUS PUERISQUE CANTO

Disease malignant fills the Air,
It's noxious Atoms far and near
Spread thro' the ambient Atmosphere:
With doubtful Flight and casual Wing,
Scatt'ring their pestilential Sting;
Or thro' the Pores or Lungs they pass,
And taint your elemental Mass.
"Therefore, ye passive Tribe, be wise,"
That learned Sage, Killdarey, cries:
"My Potion take or if you will,
"I'll tempt you with a gilded Pill:
"With these your Bodies I'll prepare,
"And blunt Disease's pointed Spear;
"I'll sublimate her finest Parts
And send them gently to your Hearts,
No Petit-Maitre's Face I'll spoil,
Nor shall a Seam Belinda soil.
Thousands attest the Truth I tell;
That once be sick, and you'll be well.

—South Carolina Gazette, Feb. 16, 1760

Euthanasia, the deliberate easing into death of a patient suffering from a painful and fatal disease, has long been a troubling problem of conscience in medical care. For us in the Western world the problem arises, pro forma, out of a logical contradiction at the heart of the Hippocratic Oath. Our physicians all subscribe to that oath as the standard of their professional ethics. The contradiction is there because the oath promises two things: first, to relieve suffering, and second, to prolong and protect life. When the patient is in the grip of an agonizing and fatal disease, these two promises are incompatible. Two duties come into conflict. To prolong life is to violate the promise to relieve pain. To relieve the pain is to violate the promise to prolong and protect life.

Morals and Medicine by Joseph Fletcher (1954)

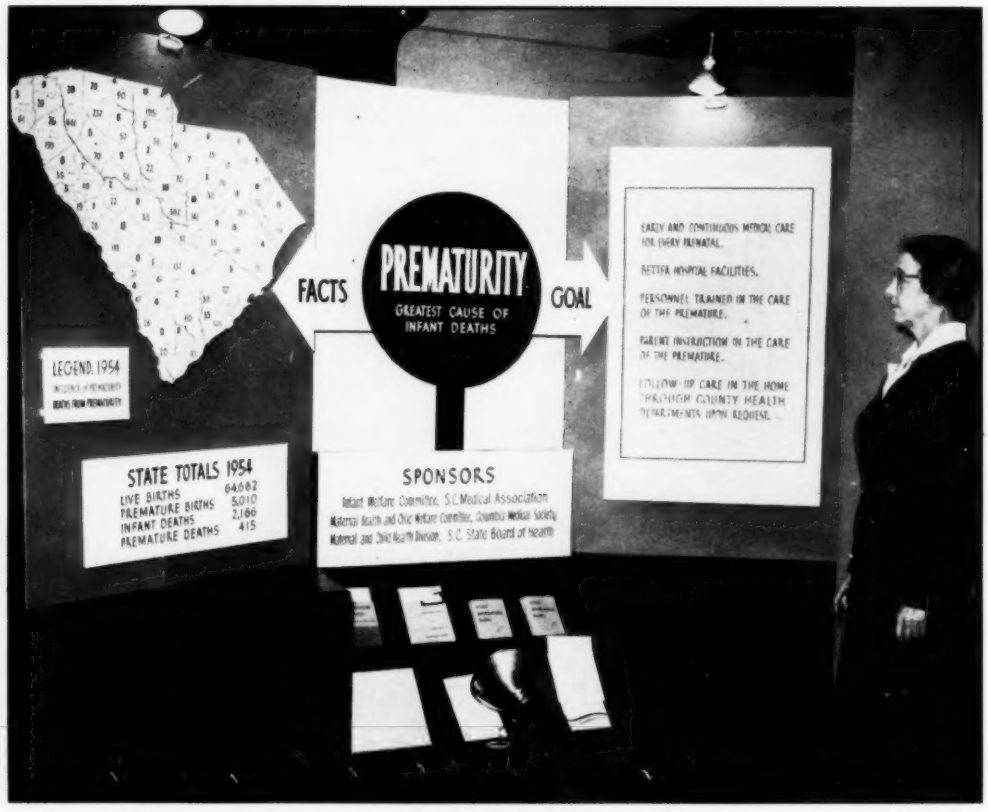

Exhibit on Prematurity

Prepared by the Maternal and Child Health Division of the State Board of Health

UNITED COMMUNITY CAMPAIGNS

UNITED

WE GIVE

METAMUCIL® IN CONSTIPATION

Normal Colon

Ulcerative Colitis

Atonic Colon

Smoothage in Correction of Colon Stasis

To initiate the normal defecation reflex, the "smoothage" and bulk of Metamucil provide the needed gentle rectal distention.

Once the habit of constipation has been established, due to any of a large number of causes, it becomes a major problem. Self-medication with irritant or chemical laxatives, or repeated enemas, usually causes a decreased, sluggish defecation reflex and may result in its complete loss.

Rectal distention is a vital factor in initiating the normal defecation reflex, and sufficient bulk is thus of obvious importance in restoring this reflex. Metamucil provides this bulk in the form of a smooth, nonirritating, soft, hydrophilic colloid which gently distends the rectum and initiates the desire to evacuate. Metamucil demands extra fluid, imparting even greater smoothage to the intestinal contents.

It is indicated in chronic constipation of various types—including distal colon stasis of the "irritable colon" syndrome, the atonic colon following abdominal operations, repressions of defecation after anorectal surgery and in special conditions such as the management of a permanent ileostomy. Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent.

The average adult dose is one rounded teaspoonful of Metamucil powder in a glass of cool water, milk or fruit juice, followed by an additional glass of fluid if indicated.

Metamucil is supplied in containers of 4, 8 and 16 ounces. G. D. Searle & Co., Research in the Service of Medicine.

SEARLE

PHYSICIANS AND SURGEONS IN PRIVATE PRACTICE IN SOUTH CAROLINA — ALLOCATION BY SQUARE MILE AND POPULATION 1953

COUNTIES	Physicians and Surgeons	Rates Per 10,000 Population	Ratio Per 100 Square Miles
Abbeville	10	4.5	2.0
Aiken	26	4.9	2.4
Allendale	6	5.1	1.4
Anderson	68	7.5	8.8
Bamberg	9	5.1	2.3
Barnwell	10	5.8	1.8
Beaufort	11	4.1	1.6
Berkeley	8	2.6	0.7
Calhoun	7	4.7	1.8
Charleston	134	8.1	14.2
Cherokee	12	3.4	3.0
Chester	14	4.3	2.4
Chesterfield	13	3.6	1.6
Clarendon	6	1.9	0.9
Colleton	16	5.7	1.5
Darlington	20	4.0	3.7
Dillon	15	4.8	3.7
Dorchester	11	4.9	1.9
Edgefield	8	4.8	1.7
Fairfield	5	2.3	0.7
Florence	59	7.4	7.3
Georgetown	15	4.7	1.8
Greenville	147	8.7	18.6
Greenwood	30	7.2	6.6
Hampton	11	6.1	2.0
Horry	24	4.0	2.1
Jasper	3	2.7	0.5
Kershaw	23	7.1	2.9
Lancaster	13	3.5	2.6
Laurens	22	4.7	3.1
Lee	6	2.6	1.5
Lexington	16	3.6	2.2
McCormick	2	2.1	0.5
Marion	23	6.9	4.8
Marlboro	12	3.8	2.5
Newberry	20	6.3	3.2
Oconee	19	4.9	2.8
Orangeburg	40	5.8	3.6
Pickens	19	4.7	3.8
Richland	161	11.3	21.5
Saluda	4	2.5	0.9
Spartanburg	112	7.4	13.5
Sumter	30	5.2	4.4
Union	11	3.5	2.1
Williamsburg	14	3.2	1.5
York	44	6.1	6.4
TOTAL	1,289	6.1	4.2

Does not include Health Officers, Resident Physicians in hospitals and institutions, etc., unless they are also in private practice.

UNIFORM HEALTH INSURANCE CLAIM FORMS PROJECT NEARS GOAL

A two-year cooperative effort by the insurance business and the medical profession to streamline health insurance claim forms used by doctors is nearing a successful conclusion, according to a recent progress report from the Health Insurance Council.

The Council reports that its Special Committee on Uniform Claim forms has submitted for acceptance by insurance companies the final drafts of two all-purpose and two abbreviated physician statement forms. One all-purpose and one abbreviated form are for use with group insurance policies, and the other two are for individual and family policies. Substantial company support for these four forms is indicated by the responses received to date from the companies, according to Carroll J. McBride, chairman of the Council's special committee.

Two other short forms already have received approval from the AMA's Council on Medical Service and have been accepted by companies writing the majority of the commercial health insurance business in America. One of these approved and accepted forms covers physicians' statements in connection with group surgical benefits and the other form covers individual or family hospital, medical or surgical benefits.

All six physicians' statement forms were processed through several stages of development and consultation with the medical profession before being put into the final draft. Many compromises were made, particular emphasis being placed on accommodating the forms to the convenience of doctors while fulfilling the needs of the companies generally.

In order to achieve uniformity in questions calling for answers by the physician, and to compensate for differences in company requirements due to variations in coverages, both basic and optional questions have been included in the forms.

Insofar as the physician is concerned, the only difference between the forms of one company or another will be whether or not the optional questions are used.

Around the end of this year, the Council plans to have ready for wide distribution throughout the medical profession a pamphlet which will tell the story of the uniform claim forms project and will also serve as a working guide on the use of new uniform and streamlined claim forms.

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